

471
1959

Psychological Monographs

General and Applied

Bailyn

ol. 73
No. 1

**Mass Media and Children:
A Study of Exposure Habits and
Cognitive Effects**

By
Lotte Bailyn

*Department of Social Relations
Harvard University*

Price \$1.50



Edited by Norman L. Munn
Published by the American Psychological Association, Inc.

Psychological Monographs:

General and Applied

Combining the *Applied Psychology Monographs* and the *Archives of Psychology*
with the *Psychological Monographs*

NORMAN L. MUNN, Editor

Department of Psychology, Bowdoin College
Brunswick, Maine

Consulting Editors

ANNE ANASTASI
FRANK A. BEACH
ARNOLD M. BINDER
W. J. BROGDEN
ROBERT R. BUSH
JOHN F. DASHIELL
JAMES J. GIBSON
D. O. HERB
EDNA HEIDBREDER
FRANCIS W. IRWIN

JAMES J. JENKINS
HAROLD E. JONES
DANIEL KATZ
BOYD McCANDLESS
DONALD W. MACKINNON
QUINN McNEMAR
LORRIN A. RIGGS
CARL R. ROGERS
RICHARD L. SOLOMON
ROSS STAGNER

Manuscripts and correspondence on editorial matters should be sent to the Editor. *Psychological Monographs* publishes comprehensive experimental investigations and programmatic studies which do not lend themselves to adequate presentation as journal articles. Major space is given to the author's original contribution; introductory and bibliographic materials, as well as statistical tables and graphs, must be kept within reasonable bounds. Tables, graphs, and appendix materials which deal with detail not essential to adequate presentation of the findings may be made available through the American Documentation Institute—for details of this procedure, see the *APA Publication Manual*. Preparation of manuscripts for publication as monographs should follow the procedure given in the *APA Publication Manual*. Publication in *Psychological Monographs* is free of cost to the author, except in cases where early publication is requested or author's alterations are made in galley proofs.

ARTHUR C. HOFFMAN, Managing Ed.; HELEN ORR, Promotion Mgr.; SADIE J. DOYLE, Editorial Asst.

Correspondence on business matters should be addressed to the American Psychological Association, Inc., 1333 Sixteenth St., N.W., Washington 6, D.C. Address changes must arrive by the 10th of the month to take effect the following month. Undelivered copies resulting from address changes will not be replaced; subscribers should notify the post office that they will guarantee third-class forwarding postage.

COPYRIGHT, 1959, BY THE AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.

MASS MEDIA AND CHILDREN: A STUDY OF EXPOSURE HABITS AND COGNITIVE EFFECTS¹

LOTTE BAILYN

Department of Social Relations, Harvard University

And shall we just carelessly allow children to hear any casual tales which may be devised by casual persons, and to receive in their minds ideas for the most part the very opposite of those which we should wish them to have when they are grown up?

—PLATO, *The Republic*, Book II

INTRODUCTION

THE PROBLEM of the effect on children of such "casual tales" has assumed great importance in our time with the advent of mass media of communication. Over the past three decades, concern about this problem has been reflected in passionately expressed opinions about the good and evil of every new mass medium, as well as in the more dispassionate efforts of research workers. The latter, however, have found the problem of effects an elusive one because of the variety and complexity of the factors involved.

Meaning of "Effects"

The area of effects is a broad one, and any investigation of it must clarify the limits within which to proceed. It should be noted, in the first place, that effects of the mass media on children can be both general and specific. In speaking of general effects one is concerned with the psychological and social problems a child faces in a society in which the media play an important role. Specific effects stem from the personal ex-

posure of a particular child. The present discussion is limited to the latter. It should be recognized, secondly, that effects may be direct or indirect: the direct having to do with effects of the mass media on characteristics within the child himself and the indirect with influences on others whose behavior affects him. The present discussion centers on the former.

Speaking, then, of direct and specific effects, one must consider, further, the area within which such effects are to be sought. Of the possible alternatives the most socially relevant area is, no doubt, that of overt behavior. Nevertheless, though the understanding of this connection may be the eventual goal, it is most fruitful at present to concentrate on some of the many mediating factors between exposure to material in the mass media and the translation of its influence into overt action. Among these mediating elements are certain of the child's habits of thought, and it is with the effects of the mass media on these habits that this study is centrally concerned.

Use of the word "effects" to describe the problem of this research does not imply the

¹ This monograph is a revised version of a doctoral dissertation written under the direction of Gordon W. Allport of Harvard University. It was partially supported by funds from a grant of the Council of Mental Health of the American Medical Association to Boston University made available to me by Nathan Maccoby of Boston University.

I am deeply grateful to Professor Allport for his wise counsel, his patient help, and his encouragement in the planning and writing of the dis-

sertation and the subsequent revisions. I had the benefit also of the guidance of Eleanor E. Maccoby of Harvard University. She allowed me to lean heavily on her experience and skill in research design and analysis; her help throughout was of inestimable value. It is a pleasure also to acknowledge the generous cooperation of Bert A. Roens, Assistant Superintendent of the Arlington Massachusetts Public Schools, and of the principals, teachers, and pupils of those schools. Their co-operation made the study possible.

assumption of a simple causal connection between the act of exposure and a way of thinking that correlates positively with it. Such a correlation, rather, is assumed to be the end result of a process consisting of increments in exposure interacting with increments in the particular way of thinking. For a cognitive correlate—a way of thinking, positively correlated with exposure—to be considered an "effect," one should have evidence that an increment in exposure increases the tendency to think in the given way. With such evidence one could reject the hypothesis that the original correlation results from self-selection alone—from the fact that children with a particular cognitive bent expose themselves more. Such evidence would suggest that at least part of any such correlation involves a causal link starting with exposure and ending with a particular way of thinking. It would suggest, in other words, that the particular character of the thought process would be absent but for material in the mass media. The present study deals with effects in this sense.

Specific Problem

The thought processes that might be studied in such a context are numerous. The present selection is based partly on concerns expressed about children's exposure to the mass media and partly on an analysis of elements that occur frequently in mass media content for children.

The final selection consists of four aspects of thinking. Two of these reflect fairly directly specific elements of certain stories frequently found in the mass media. The first is the tendency to stereotype. Many comic books and television programs for children present personality crudely and simply. A person is either good or bad. Which category he falls into is determined more by fiat and conventional expression than by psychologically meaningful motivations. Do children who are constantly exposed to such stories pick up this way of classifying people? Does this feature of the content affect the degree of stereotyping in their thinking?

The second aspect, closely related to con-

tent, concerns the perception by the child of the existence of a general threat to him as an individual or to his country or to the world. Many stories present the individual as helpless in this world. Even the law-enforcement officer frequently is powerless in the face of evil and has to be helped by the supermen of children's stories. Does this element of content carry over to the child's perception of the power of the individual to control his own destiny?

The two other aspects dealt with here have to do with the influence of exposure to the mass media on (a) a child's self-image and (b) the degree of passivity in his outlook. Specifically, the former relates to the following question: If one asks a child what he wants to be when he is grown up or whom he would most like to be changed into, does he draw on the personalities frequently portrayed in the mass media for his answers? Two related questions are asked about the problem of passivity: first, concerning the preference for types of activities of a more or less passive nature; second, concerning the passiveness implicit in desiring an occupation the same as, or similar to, that of the parents.

The central problem of this study, then, is the effect of the mass media on four cognitive aspects of the child: stereotyping, perception of threat, projected self-image, and passivity.

General Procedure

The amount of a child's exposure and the material to which he is exposed are necessary data for any study of effects. Also important is the child's perception of this content, hence this, too, must be taken into account if effects are to be understood.

In addition to the child's media habits, certain other characteristics must be considered. Obviously, the way a child thinks is to a large extent dependent on his established psychological characteristics and on the social characteristics of the groups to which he belongs as well as on the mass media. Ignoring such influences on thought could result in the establishment of spurious relationships, or it could indicate mistakenly a lack of relationship between exposure to

the mass media and thought processes. Therefore a questionnaire² was administered to over six hundred boys and girls in the fifth and sixth grades of the public schools of a suburb of Boston, Massachusetts, that yielded basic information on exposure habits, social background, and psychological characteristics as well as evidence relevant to the cognitive aspects under investigation.

Information on the frequency of exposure and content preferences was obtained on six media: radio, television, movies, comic books, books, and comic strips. Subsequent analysis showed that the pictorial media—television, movies, and comic books—form a unit in opposition to the others.³ This fact, and the greater concern with the problem of these media than with some of the others, led to the decision to limit most of the analysis in this study to these three.

Three main indices of the social characteristics of the children's families are used: occupation of father, education of parents, and religion.

The main psychological emphasis in this study is on the consciously perceived problems a child has about himself and his relations with the people in his immediate environment. Does a child with such problems expose himself more to the mass media than children without them? Once exposed, does he use the media for different purposes than those who do not have these problems? Is he, because of his problems, affected in a different way by the media? Data were also collected on the child's tendency to be extrapunitive or intropunitive and on evidences of rebellious independence.

A subsample of the boys who filled in the questionnaire was interviewed individually, at which time they were given a comic book to read and asked in detail about their reactions to its con-

tent, what they remembered of it, how they perceived the people and events in it. The comic book used contains elements related to the particular thought processes involved in the study. It consists of three stories. The first concerns a young boy who was brought up under adverse circumstances and turns to a life of crime. He kills six people, robs a bank, and is finally caught and executed. The second story is about a scientist who has invented a way of getting into space in a very short time. The spacemen, on learning of this discovery, send an agent to earth to kill the scientist. Unknown to the scientist, his dog, whom he was about to return to the kennels, attacks the spaceman and saves the scientist's life. The third story features an individual named Strongman, who, by building up his muscles, has achieved enormous physical strength. He is called in by the police to investigate a dock murder only to discover that it is part of a Communist plot. Strongman finally saves the city from an atomic bomb by boarding a ship and vanquishing the Communists, a task the police and FBI had been afraid to perform.

With this same subsample, and at the same session, an experiment was conducted using the questions on the cognitive variables in the questionnaire as a premeasure, the comic book as an experimental stimulus, and repetition of the cognitive questions after the reading of the comic book as a postmeasure. This experiment furnishes the data for the imputation of effects. If one has isolated certain cognitive correlates of high exposure among certain types of children, one may investigate, by means of such an experiment, the effect of a particular example of the mass media on these cognitive factors among children with similar psychological characteristics who are not habitually very much exposed. The expectation is that even such a small degree of exposure may bring this group closer, with regard to the cognitive factor in question, to the psychologically equivalent group with high exposure, if this way of thinking is indeed an effect of the mass media.

PSYCHOLOGICAL AND COGNITIVE CHARACTERISTICS

What have here been called "psychological" characteristics are assumed to be more stable elements of the personality (more important for a child's general adjustment to his environment) than the "cognitive" factors. Within the present framework, this difference implies that the former would not logically be thought of as effects of exposure to the mass media; the latter might be. The psychological characteristics may more profitably be considered intervening factors, by means of which the relation between exposure and its determinants and effects may be elucidated. For this reason,

² The questions dealing with psychological and cognitive characteristics are presented in Appendix B.

³ Radio and books form another unit. Comic strip reading is mainly related to exposure to comic books. Confining analysis to media that correlate positively with each other insures greater homogeneity in different exposure groups. For this reason, comic strips—though also pictorial—were not among the media emphasized in this study.

the present section deals separately with the psychological and cognitive characteristics of the children in the sample. Its purpose is to describe the sample with regard to these characteristics, as well as to present relationships among them, and to outline their dependence, if any, on certain social factors.

Psychological Characteristics

Problems. We are concerned with the problems a child has in three areas: self, peer, and family.

Problems in the self area center on a child's expressed discontent about his abilities and appearance. They are indicated, for instance, by a child's belief that he is too fat, that he would like to be better looking, or smarter, or stronger. Problems in the peer area concern a child's feeling of inadequacy about his relations with other people of his age—for example, a feeling that he would like to have more friends than he has. A child who feels that his parents keep him from doing the things he wants to do or who feels that they do not understand him has problems in the family area. The total measure used for problems is the sum of the scores received in each of these areas, divided, for most of the analysis, into three categories: many problems, medium, few problems.

Each area has a minimum score of 0 which means no problems. The maximum score in the self area is 23; in the peer area, 26; in the family area, 27. The maximum total problem score is not the sum of the maxima for the three areas separately, since these maxima contain response patterns that are mutually exclusive. The total maximum is 54; the minimum is still 0.⁴ Total scores received by the children do not reach either of these limits: they go from 1 to 43.

Table 1 gives the distribution of total problems for boys and for girls. Though boys and girls did not differ in reporting the presence of problems in general, the distribution in the three areas was not the same. The major difference was found in the family area, where boys have more problems than girls ($\chi^2 = 6.9, .005 < P < .01$).

The presence of problems among boys is related to the occupation of the father and parental education. Boys whose fathers are workers are found to have higher problem scores than those of white-collar fathers ($\chi^2 = 5.7, .01 < P < .02$); yet sons of col-

TABLE 1
FREQUENCY AND PERCENTAGE IN EACH PROBLEM
CATEGORY BY SEX

Problems	Boys		Girls		Total	
	Freq.	%	Freq.	%	Freq.	%
Many (≥ 21)	119	36	101	34	220	35
Medium (15-20)	87	26	75	26	162	26
Few (≤ 14)	126	38	118	40	244	39
Total	332	100	294	100	626	100

lege educated parents have higher problem scores than sons of noncollege parents ($\chi^2 = 5.8, .01 < P < .02$). Further analysis shows that problems in the family area determine the latter relationship ($\chi^2 = 5.8, .01 < P < .02$).

Among the girls there is no significant relationship between problem scores and any of these social factors taken independently. However, among girls whose fathers are workers, Catholics have more problems than Protestants ($\chi^2 = 4.1, .025 < P < .05$). The role of religion is seen especially clearly in the self area. Catholic girls, no matter what the occupational level of their fathers, have more self-problems than do Protestant girls ($\chi^2 = 3.9, .025 < P < .05$).

Direction of punitiveness. Intropunitive children are those who tend to blame themselves in situations of conflict or frustration; extrapunitive children tend to place the blame elsewhere.

Scores on direction of punitiveness were based on five items in the questionnaire. Extrapunitive answers were given high scores; intropunitive ones, low scores.⁵ The scores range theoretically from 1 to 19; actual scores received reach these limits.

Table 2 presents the basic data on direction of punitiveness. As can be seen from the extreme categories of this table, girls are very much more intropunitive than boys ($\chi^2 = 13.3, P < .001$). Direction of punitiveness is independent of all social factors under discussion here, for both boys and girls.

Rebellious independence. Ratings of rebellious independence were based on answers to the following question:

⁴ The exact scoring scheme is given in Appendix C.

⁵ The exact scoring scheme is given in Appendix C.

TABLE 2

PERCENTAGE IN EACH PUNITIVE CATEGORY BY SEX

Category	Boys (N = 332)	Girls (N = 294)	Total (N = 626)
Extrapunitive (≥ 8)	32	20	26
Medium (5-7)	41	41	41
Intropunitive (≤ 4)	27	39	33

If you were going to the circus would you want to go—

- A—with your father?
- B—with your best friend?
- C—with your brothers or sisters?
- D—with a group of friends?
- E—with your mother?
- F—by yourself?

Each child was asked to give his first, second, and third choice.

The children's answers fell into distinct groups: those children marking mother, father, siblings, as opposed to those marking, for instance, group of friends, best friend, and alone. The rejection of parents as circus accompaniers or the desire to go "by yourself" when expressed by 10- or 11-year-old children was considered indicative of an attitude of rebellious independence.

The scoring scheme follows:

Rebelliously independent: all of those children including "by yourself" as a choice, as well as those without this response who, however, do not choose either parent.

Nonrebellious: those children choosing mother, father, and siblings, as well as those children who do not have siblings hence do not choose this category, but who choose at least one parent and do not choose the "by yourself" category.

Medium: all other responses.

Table 3 presents the data on this question. Again there is a striking difference between girls and boys: many more boys than girls are rebelliously independent ($\chi^2 = 14.2, P < .001$). There is no relationship between rebellious independence of the child and the social characteristics of his family.

TABLE 3

PERCENTAGE IN EACH REBELLIOUS INDEPENDENCE CATEGORY BY SEX

Category	Boys (N = 332)	Girls (N = 294)	Total (N = 626)
Rebelliously independent	19	9	14
Medium	42	41	42
Nonrebellious	39	49	43
No answer	0 (1 boy)	1 (3 girls)	1 (4 children)

To summarize: girls and boys have about the same problem level. Boys, however, have more problems in the family area. On the other two psychological variables a more decided sex difference exists: girls are more intropunitive and less rebelliously independent.

When the interrelation among these three psychological factors is considered, only one significant relationship emerges: the rebelliously independent children are more extrapunitive, the nonrebellious ones more intropunitive ($\chi^2 = 12.2, P < .001$), a relationship particularly strong among the boys.

Cognitive Attributes

Stereotyping. Degree of stereotyping in the classification of people was gauged from four different stereotypes: good-bad, strong-weak, lazy-hard working, and honest-dishonest. The average number of stereotyped responses given out of 12 is 3.72, 3.86 for boys and 3.55 for girls.

This score is based on Questions 1, 2, 4, 6, 7, 9, 11, 12, 14, 16, 17, 19 of Part II of the questionnaire. The good-bad and strong-weak stereotypes were included in four items each, the others in two. More items were included for these classification principles because it was felt that they are more closely related to the content of the mass media. A score of 1 was given to the stereotyped answer, 0 to the nonstereotyped one. Hence, scores range theoretically from 0 (unstereotyped) to 12 (stereotyped). The actual range obtained was from 0 to 11. Children who left only one or two of these items unanswered were given a score by assigning an answer to the missing questions by means of the responses that were given and the over-all marginals on the questions. Six children (five boys and one girl), however, left so many of these questions unanswered that no over-all score could be given to them with any degree of certainty. Hence, the discussion of stereotyping is based on 620 children. For some of the analysis a three-category classification of stereotyping scores was used:

- High: ≥ 6
- Medium: 3-5
- Low: ≤ 2

The four items to which the most stereotyped answers were given are:

(1) Do you think it is important to know if a person is good or bad before having anything to do with him?

I think it is very important—86%

(2) Lazy people are all alike and quite different from people who work hard.

I think this is true—72%

(3) Why do some people become bums?

Because they are naturally lazy—48%

(4) It is possible to tell by a person's face whether he is honest or dishonest.

I think this is true—37%

The strong-weak classification is thus not included among the questions drawing the most stereotyped responses. Both items of the lazy-hard working stereotype appear among the top four.

Amount of stereotyping is related to religion for both girls and boys. Catholics turn out to be more stereotyped than Protestants (boys: $\chi^2 = 8.0, .001 < P < .005$; girls: $\chi^2 = 3.9, .025 < P < .05$). The occupation of the father affects stereotyping only in the case of the boys: sons of worker fathers are more stereotyped than are those whose fathers have white-collar occupations ($\chi^2 = 5.0, P = .025$).

Perception of threat. The mean score of threat perception is 18.83 out of a possible 32.

This score is based on Questions 3, 5, 8, 10, 13, 15, 18, 20 of Part II of the questionnaire. A 1 was given to the response indicating least perception of threat, a 4 to the one indicating most perception; 2 and 3 were given to the intermediate response categories. Scores, therefore, can range from 4—least perception of threat—to 32—most perception. Actually, the range was from 9 to 27. Three children (all boys) were not included because of insufficient answers; the sample is, therefore, reduced to 623—329 boys and 294 girls—for this analysis. A three-category classification was used for some of the analysis:

Perception of threat—total: H ≥ 21

M 18–20

L ≤ 17

Personal: H ≥ 10

M 8–9

L ≤ 7

World: H ≥ 12

M 10–11

L ≤ 9

The average score for boys was found to be 19.23, for girls 18.38: boys perceive the environment as more threatening than girls do ($t = 3.6, P < .001$). The item that drew the most threat responses is:

Do you think something may destroy the world some day?

Yes, I definitely think so—19%

I think it might happen—47%

Perception of threat was divided into two categories: first, the perception of threat to the individual, a feeling of personal frustration; and second, perception of threat to the country or world. The item mentioned above as drawing the most threat responses is part of the second, or world, area. The item in the personal category that drew the most threat responses is:

Is it hard for a person to be what he wants to be in life?

It is very hard—15%

It is quite hard—42%

In the personal area the difference between girls and boys is not significant. Hence, the fact that boys perceive more threat in general is based on the fact that in the world category they give more threat responses than girls do ($t = 4.1, P < .001$).

Religion is related to amount of perceived threat to the world or country (world area) in the case of boys. Catholic boys see more of this threat ($\chi^2 = 4.2, .025 < P < .05$).

The frequency of problems among girls is related to the personal category. Girls with many problems tend to feel more personal frustrations than girls with few ($\chi^2 = 4.6, .025 < P < .05$). Among the boys, the rebelliously independent ones see more threat to the world and to themselves as individuals than the nonrebellious ones ($\chi^2 = 4.9, .025 < P < .05$).

Projected self-image, realistic. All children were asked what they would like to be, occupationally speaking, when they are grown up.

Each child was asked to give three occupational choices. The analysis, however, is based only on the first choice. The realism score was based on all three choices; hence, these percentages are based on only about two thirds of the total cases, those where realism of the first choice is clear.⁶

Tables 4 and 5 give the three categories into which most of the choices fall. The modal category for the boys, top professional, includes professions like doctor, lawyer, architect, professor. It does not in-

⁶ Appendix C gives the exact coding scheme.

TABLE 4
MOST FREQUENTLY CHOSEN OCCUPATIONAL CATEGORIES OF BOYS

Category	No. 1st Choices	% ^a
Top professional	52	16
Athletics	38	12
Worker (all skills)	37	12
Total (top 3 categories)	127	40

^a Percentages are based on 320 cases; 12 boys did not answer this question.

clude engineer, which was classified separately, or scientist, which also had a separate category.

The top category for the girls, lesser professional, includes as the main occupation nurse. Teacher was separated from the other lesser professions because it appeared so frequently. The third most frequently chosen category of the girls, clerical and sales, has secretary as its main occupation.

It may be seen that girls show a more uniform pattern than boys. Over half of the girls' first occupational choices fall into the three most frequently chosen categories; just a little over a third of the boys' choices do. The girls of this age do not seem to let their imaginations roam as much in choosing their desired occupation. This uniformity is further brought out when the reality of these occupational desires is investigated. Only 37% of the boys' first choices, where realism was ascertainable, are realistic as opposed to 67% of the girls' choices.

How is the nature of the first occupational choice related to the social and psychological factors? Among boys it was found that first occupational choice is very much determined by their parents' position in society. The worker category, which is the third over-all category chosen, does not appear among the top three choices of Protestants, of boys whose parents went to college, or of boys with white-collar fathers. Among sons of worker fathers and sons of noncollege parents it is the modal choice.

Rebelliously independent boys introduce two new categories as their first and second most frequently chosen ones. The first refers to noncombatant air, sea, and other

TABLE 5
MOST FREQUENTLY CHOSEN OCCUPATIONAL CATEGORIES OF GIRLS

Category	No. 1st Choices	% ^a
Lesser professional	70	24
Teacher	52	18
Clerical and sales	49	17
Total (top 3 categories)	171	59

^a Percentages are based on 293 cases; 1 girl did not answer this question.

adventure occupations. The second is the armed services. Nonrebellious boys, in contrast, retain the modal top professional category.

The social characteristics of the girls do not affect their occupational choices. Lesser professional, teacher, and clerical and sales appear as the three most popular choices in all social subgroups. However, extrapunitive girls introduce a new category, which refers to occupations like actress and singer, and takes the place of clerical and sales in this subgroup.

Projected self-image, fantasy. Information on the projected self-image of the children in a fantasy setting was based on a question which presented them with a list of characters from which to choose the ones they would most want to be changed into (Question 26 of Part 1 of the questionnaire). Tables 6 and 7 present the three personalities most frequently chosen by the children in their first choices.

The greater uniformity shown by the girls than by the boys is again apparent. Almost three fourths of the girls' first choices are in the three most frequently chosen categories, as opposed to only a little more than a third of the boys'.

TABLE 6
FAVORITE FANTASY METAMORPHOSSES OF BOYS

Person Changed Into	No. 1st Choices	% ^a
Superman	46	14
Animal breeder	39	12
FBI agent	37	11
Total (top 3 categories)	122	37

^a Percentages are based on 331 cases; 1 boy did not answer this question.

TABLE 7
FAVORITE FANTASY METAMORPHOSSES OF GIRLS

Person Changed Into	No. 1st Choices	%*
Movie star	132	45
Princess	44	15
Animal breeder	37	13
Total (top 3 categories)	213	73

* Percentages are based on 291 cases; 3 girls did not answer this question.

Animal breeder, for boys, seems to be a high status choice. It occurs first or second among Protestants, boys whose parents went to college, and boys with white-collar fathers. It does not come up in the first three choices of Catholics, boys whose parents did not go to college, or sons of worker fathers. These latter three groups substitute movie star for animal breeder; movie star is in first or second place for all of them. The only other change of interest is that the group of boys whose parents went to college has president as its modal choice, a selection that does not occur in even the top three categories of any other social subgroup. This change is also made by boys who have few problems in the peer area; they also choose president, a different type of power personality, more frequently than Superman.

The girls are so definitely decided on movie star as their main desire that there is no variation among subgroups—each subgroup has this selection as its modal choice. The second and third favorite categories of the girls, princess and animal breeder, are represented among the top three choices of all subgroups except the Catholics, among whom reporter takes the place of animal breeder, and among girls with many peer problems where cowboy, reporter, or queen takes the place of animal breeder.

Passivity, professed activities. One approach to the problem of passiveness centered on the preference for more or less active forms of social behavior.

This score was based on Questions 1, 4, 18, 22, 24 of Part I of the questionnaire. An active choice was given a score of 1, a passive choice 0. Hence, scores can, and do, range from 0 to 5. Two hun-

dred and seventy boys and 266 girls answered all five questions. The rest are not included in the discussion.

Given five choice situations, girls on the average chose 2.94 active alternatives as opposed to 2.65 for the boys, a significant difference ($t = 3.4, P < .001$). Rebelliously independent girls gave fewer active choices than nonrebellious ones ($t = 2.3, .02 < P < .05$).

Passivity, change in occupational status. An alternative approach was through occupational aspirations. Some of the occupational choices of the children were realistic, others were not. Of the former, certain ones were considered active—surpassing the occupational status of the parents.⁷ Of boys' realistic occupational choices, 30% indicate an aspiration for an occupation higher on the social scale than that of the father. Girls' choices, which were compared with the occupation of the mother, are much more active: 74% of their realistic choices are active in this sense, mainly because a large proportion of the mothers were housewives, which made any occupational choice an active one. These tendencies are independent of the social and psychological characteristics under investigation.

EXPOSURE HABITS

The present section concerns the frequency of exposure and content preferences of the children in the sample, and the relation of these exposure habits to social and psychological characteristics. In interpreting the data of this section, it must be remembered that information on frequency of exposure was obtained from the reports of children. No validation of this information was attempted. However, the average exposure times reported agree quite well with results of other studies (e.g., Butterworth & Thompson, 1951; Mahony, 1953; Mit-

⁷ In some cases a realistic choice could not be classified into either of these categories; such a choice was considered unascertainable in this respect. Only the number of realistic choices that it was possible to classify into the active or nonactive category was used as a base. Appendix C gives the exact coding scheme.

TABLE 8
MEANS OF FREQUENCY OF EXPOSURE FOR BOYS AND GIRLS

Media	Boys		Girls	
	Mean	Classification	Mean	Classification
Television*	4.7	Between "a couple of hours a day" and "3 or 4 hours a day"	4.6	Same as for boys
Comic books	3.4	Between "1 every few days" and "about 1 a day"	2.7	Between "1 every few weeks" and "1 every few days"
Comic strips	4.5	Between "read them a few times a week" and "read a few every day"	4.3	Same as for boys
Radio	2.7	Between "a little every week or so" and "a little every few days"	2.6	Same as for boys
Movies	2.6	Between "about once a month" and "a couple of times a month"	2.2	Same as for boys
Books	3.8	Between "1 every few months" and "a couple a month"	4.4	Between "a couple a month" and "1 a week or so"

Note.—Means are based on a 6-point frequency distribution.

* Twenty-five children, 13 boys and 12 girls, do not have television sets in their homes. Of these, about half (56%) watch television rarely, the rest are nonetheless exposed, probably at friends' houses.

chell, 1929; Witty, 1952). Moreover, certain investigators—who have checked validity—have shown that children's reports are fairly correct (e.g., Dale, 1935).

Extent of Exposure

Table 8 presents the mean exposure to each of the six media investigated in this study. It shows that television takes up by far the most exposure time of children; books and movies least. The means for girls and boys fall into the same frequency categories for television, comic strips, radio, and movies. For books and comic books, however, boys' and girls' averages fall into different, though adjacent, categories. Girls read fewer comic books and more books than do boys.

Do children with high exposure to one medium expose themselves to other media, or is their exposure time reserved for the favorite medium? The correlations among frequencies of exposure to the media, which will answer this question, are given in Table 9. The upper half (to the right of the diagonal) represents the correlations for boys, the lower half those for girls.

Two clusters of media emerge when these correlations are examined: one consists of the pictorial media—television, movies, and

comic books—frequencies of exposure to which correlate positively with each other; the other consists of radio and books. The amount of exposure to neither of the latter group—radio and books—correlates positively with any of the former; the frequencies of both correlate negatively with amount of television viewing.

As has been indicated in the introductory section, this study centers on the first cluster of media—television, movies, and books.

The exposure score for these media was derived as indicated in Appendix C. The minimum score is 16, which represents a child who "hardly ever" watches television, "hardly ever" goes to the movies, and "hardly ever" reads comic books. The maximum score is 72 which would be given to the child who watches television "5 to 6 hours a day or more," goes to the movies "almost every day," and reads "4 or 5" comic books "a day or more." The scores actually reach both theoretical limits. For most of the analysis a three-category classification of exposure was used:

High: ≥ 50
Medium: 42-49
Low: ≤ 41

The difference between the mean of the high exposure group and that of the low exposure group, for both boys and girls, is 2.1 standard deviations of the total distribution. The high exposure boys have a mean of 57.34, the girls a mean of 56.15. The low exposure groups have the means of 33.11 and 32.68, respectively, for boys and girls. Taken as two separate samples—one high in exposure, one

TABLE 9
CORRELATIONS AMONG MEDIA FOR BOYS AND GIRLS

Media	Television	Movies	Comic Books	Radio	Books	Comic Strips
Television		.29*	.41*	-.16*	-.17*	.09
Movies	.24*		.34*	.04	-.02	.09
Comic books	.34*	.30*		.02	-.01	.21*
Radio	-.14*	.02	.06		.15*	.05
Books	-.46*	-.03	.05	.16*		-.02
Comic strips	.06	.04	.21*	.18*	.07	

Note.—Upper half represents correlations for boys; lower half, correlations for girls.

* $P < .05$.

low—these differences are highly significant. Hence, one can say that the high and low exposure groups really are different in exposure. Their means differ by about 24 points, for both boys and girls, on a distribution with a range of 56.

The mean exposure score for boys is 45.23, for girls it is 41.20, a significant difference ($t = 4.4, P < .001$). As can be seen from Table 8, this difference is largely, though not completely, dependent on the difference between boys and girls in the frequency with which they read comic books.

High exposure occurs more frequently among Catholic children than among Protestants ($\chi^2 = 4.8, .025 < P < .05$) and among those whose fathers are workers rather than those whose fathers have white-collar occupations ($\chi^2 = 8.0, .001 < P < .005$). However, the degree of association that exists between these social characteristics and the child's frequency of exposure is not very large. Neither occupation of father nor religion accounts for very much of the variation in degree of exposure: father's occupation accounts for 1.7% ($r_m = .13$), religion for 1.0% ($r_m = .10$).⁸

More important than these factors are two others: parental restriction on amount

⁸ The statistic used— r_m —is computed from the frequencies of 3×2 tables: 3 levels of exposure; 2 of the social characteristic. The subscript "m" is used to distinguish this measure of relationship from the usual correlation coefficient; it stands for Mosteller, who devised it (see Lazarsfeld & Rosenberg, 1955, p. 74). Though degree of relationship is measured by means of r_m in this section, significance of relations is determined by means of χ^2 based on the extreme exposure groups, i.e., on a comparison between the high and low exposure groups with respect to the particular factor under investigation.

of exposure and IQ.⁹ The former, which accounts for 15.9% ($r_m = .40$) of the variation in degree of exposure to the pictorial media, may be considered an over-all manifestation of the family's social and cultural standing. The latter works independently of these other factors and accounts for 7.7% ($r_m = .28$) of the exposure variation.

It may be of interest to note, at this point, that though grades and reading ability seem to relate to amount of exposure, IQ differences explain both of these relationships.¹⁰

There are, then, four social factors that affect the amount of exposure of children.

⁹ The IQ scores are based on the California Elementary Mental Maturity Test—Short Form, 1950. "High" includes scores of 123 or more, "low" those 108 or less, and "medium" those falling between 109 and 122. Analysis is based on the extreme groups.

¹⁰ Three levels of restriction are used. The restricted group consists of children for whom none of the pictorial media—movies, television, comic books—is unrestricted. The unrestricted group consists of those children who are restricted neither in television nor in comic books. Since movies are so frequently restricted, such a restriction was allowed in this group if accompanied by a lack of restriction on radio. In other words, this group consists of children whose parents do not restrict movies, television, and comic books, as well as those who do restrict movies but do not restrict television, comic books, and radio. All other children fall into a middle category. The two extreme groups are used in the analysis.

¹¹ Grades in substantive subjects were averaged after assigning scores of 1 to A, 2 to B, etc. "High" consists of those averages that were 1.85 or less, or a little over B or above. "Low" were those that were 2.65 or more, that is, C+ or below. "Medium" falls between these two points.

The relationship between reading and exposure disappears completely when measured separately

TABLE 10

COMBINATION OF THE FOUR DETERMINING FACTORS
(AMOUNT OF RESTRICTION, IQ, OCCUPATION OF
FATHER, RELIGION) AND EXPOSURE FOR
TOTAL SAMPLE

Factor Combinations	Exposure			Total
	High	Medium	Low	
Restricted, High IQ, White Collar, Protestants	5%	19%	76%	100% (N = 21)
Unrestricted, Low IQ, Worker, Catholic	63%	23%	14% ^b	100% (N = 22)

^a Actually 28 children have all these characteristics. However, 7 of these—all with low exposure—do not have television sets at home and hence are excluded from the table.

^b All the children in this group are girls.

Two of them—religion and occupation of father—are background characteristics; they relate least to amount of exposure. Amount of restriction, which accounts for most of the variation in exposure, represents the direct influence of parents. The child's IQ seems to work as a selective factor: the high IQ child is still less exposed than the low IQ child even when both relevant social characteristics as well as parents' influence do not work against exposure, as in the case of the unrestricted, worker, Catholic group ($r_m = .22$).

These four factors affect exposure independently of each other. Any combination of them increases one's ability to account for variations in exposure. A combination of all four factors accounts for 47.1% of this variation. This information is presented in Table 10, even though such a procedure naturally reduces the number of cases greatly.

A new element is introduced when the relationship between achievement and IQ is considered for *each individual child*. Each child was rated as an over-achiever (school grades exceed IQ), an under-achiever (grades fall below IQ), or as a normal

among children with high and those with low IQ. The same occurs with respect to achievement in the high IQ group. In the low IQ group a tendency remains for children with low averages to be more exposed than those with high averages. However, the χ^2 value of this relationship is not statistically significant and the degree of the relation is reduced from .31 for the sample as a whole to .18 for this group.

achiever.¹¹ Normal achievers fall into exposure classifications with expected frequencies—expected in the sense that they are similar to those for the sample as a whole. Over- and under-achievers deviate from this pattern, and in this deviation there is a decided difference between boys and girls.

There is no relation between achievement relative to IQ and exposure among the boys. Among the girls, however, a relationship does exist. Girls who are over-achievers are less exposed than girls who are under-achievers ($\chi^2 = 6.2, .01 < P < .02$). It seems, then, that girls who take school work seriously, who are over-achievers, spend less time in exposure to the mass media than do the girls who are under-achievers.

Exposure and psychological characteristics. An obvious question to ask is whether having problems leads a child to expose himself more to the mass media. Will the mass media be sought more by children with many problems in their everyday life, perhaps as an escape from these problems? The answer seems to be No: presence of problems is not related to amount of exposure to the pictorial media. Problems do, however, correlate with exposure to the nonpictorial media. Children with many problems tend to listen *less* to the radio and read *fewer* books than do children

¹¹ Both IQ and average grades were classified into ten categories. If the two classifications for a given person differed by at most one point, that person was rated as a normal achiever; if IQ fell into a category two or more points higher than average grades a rating of under-achievement was given; if IQ was two or more points lower than grade average the child was considered an over-achiever. Girls' and boys' IQ scores have about the same distribution. Girls, however, have much higher grades; hence, there are more over-achievers among them (25%) than there are among boys (9%).

All children in the top or bottom two IQ categories were eliminated in the analysis because of the operation of a ceiling effect. Children whose IQ's are in the top two categories cannot be rated over-achievers, because the category of their grades cannot exceed that of their IQ. Similarly, children with IQ's in the lowest two categories cannot be rated under-achievers.

dren with few problems (boys: $r = .22$; girls: $r = .14$).¹²

Among the boys, exposure is unrelated to direction of punitiveness. Among the girls, however, the ones who are extrapunitive tend to be somewhat more exposed ($\chi^2 = 3.8, P = .05$). There is no relation between exposure and rebellious independence for either boys or girls.

Though problems and exposure to the pictorial media are not related directly, the presence of problems may affect the relationship between exposure and other variables. For example, high IQ children are less exposed to the mass media. It might be that such a relationship exists only among children with many problems, whereas in the group with few problems, IQ and exposure are independent.

Of the four factors most related to exposure there is a conditional relation only in the case of father's occupation. Among children with many problems, occupation of father is barely related to exposure ($\chi^2 = 1.3, P = .25, r_m = .10$). In contrast, among children with few problems, those whose fathers are workers are much more exposed than those whose fathers hold white-collar positions ($\chi^2 = 7.5, .005 < P < .01, r_m = .21$). In other words, among children with few problems father's occupation is more determinant of exposure than it is in the group with many problems. Perhaps a child with many problems is less likely to accept family standards—less emphasis on the mass media in white-collar families, for instance—than one with few problems.

There is, however, another way in which problems may be related to exposure. Problems and some other characteristic may

jointly affect the amount of exposure, though neither factor alone may do so. An example of this type of relationship concerns the degree of rebellious independence of the child. Among children with few problems, independence and exposure are not related at all. A fairly strong relationship exists, though, in the group with many problems. In this group, children who show rebelliously independent tendencies are more likely to fall into the high exposure group than are those who do not show such rebelliousness ($\chi^2 = 9.5, .001 < P < .005, r_m = .31$). Since degree of rebellious independence has no direct relationship to amount of exposure, this means that children with many problems who also show a certain amount of rebellious independence tend to be more exposed to the pictorial media, though neither factor alone produces significant variations in exposure.

*Content Preferences*¹³

In order to investigate content preferences, it is necessary to devise a scheme for classifying the content of the mass media. Some categories are applicable to all media, others only to some. Westerns, crime stories, animal tales, comedies, plots centering on spies and war, and horror stories are descriptive of material on any medium. So are stories centering on everyday family themes and the category "superforce," referring to heroes—like Superman—endowed with supernatural powers. Other classifications apply particularly to certain of the media and not to others: as for instance sports, music, and religion on radio and television, and cartoons in the movies. It is in such categories that the stated preferences of the children were classified.

A percentage score was arrived at by the following procedure: only the first three choices of each child for television, movies, and comic books were used, since many children did not fill in all five

¹² Scores for exposure to radio and books were formed by adding up the number of the frequency given for each medium. These numbers went from 1 to 6, 1 representing a high frequency of exposure, 6 a low one. Therefore, the combined scores ranged from 2 to 12. It was these scores that were correlated with problem scores. Only children who answered both the radio and book frequency questions were used in this correlation: 323 boys, 291 girls. Since high scores on frequency represent low amount of exposure, the sign of these correlations has to be reversed.

¹³ This information is based on the children's write-in answers to questions of the form, "Write here the names of the 5 programs [movies, comic books] you like best" from Part III of the questionnaire. Each child was urged to fill in only as many as he really liked, even if this number was fewer than five.

choices. A first choice was given the score of 3; a second that of 2; a third, 1. Hence, there is a maximum score of 6 for each medium. The three pictorial media were treated as a unit in this analysis, giving a maximum possible score of 18 for a child who filled in at least three choices for each medium. The crime choices, for instance, were scored in the same way. The child whose first choice on television is *Dragnet* and whose third choice in comic books is *Crime Does Not Pay*, and who mentions no other crime material, would get a score of 4 on crime (3 for first choice on television plus 1 for third choice on comics). If the child had indeed given three choices for each medium, his percentage score for crime would be $4/18 = 22\%$. Had he, however, given no movie preferences, his total maximum score would be reduced to 12, and for the same pattern of crime choices he would get a score of $4/12 = 33\%$. In this manner each child was given a percentage score on each of the eight categories that covers all three media; a score that represents the percentage the scores in a particular category are of his maximum possible score. It is the means of these scores that are used for analysis. Seven children, three boys and four girls, gave no content preferences for any of the pictorial media. Hence, the analysis is based on 329 boys and 290 girls.

The rubrics applicable to the pictorial media are listed with the frequencies of their choice in Table 11. It can be seen from this table that animal and situational stories comprise a large proportion of children's favorite material, especially for girls; almost half of their choices fall into the latter classification.

Five of the categories presented in Table 11—western, crime, spy and war, superforce, space—seem to contain similar elements: they tend to involve heroes who de-

fend themselves and their friends, their rights, or their country and the world against evil elements that threaten them by force; their defense usually involves acts of force as well. This cluster may be referred to as the aggressive-hero type of material, or AH content for short. This type of material is central to the present study for two reasons: First, it has greater social relevance—the concern about the effect of the mass media on children centers mainly on stories having these features; second, stories of this nature contain the elements specific to the thought processes under investigation.

Each child was given an AH score by taking the sum of his percentage scores for the five areas involved. The mean of these scores for boys is 34.51, for girls it is 16.34. This difference of 18.17 points is significant ($D = 18.17, t = 10.9, P < .001$).¹⁴ Because of this difference—and others, as will be shown—boys and girls are discussed separately, starting with boys.

Boys' preference for AH content. What factors seem to determine content preferences of boys? Of the social characteristics—religion, father's occupation, parents' education—none affects liking for AH material significantly.

Restriction on exposure time, however—indicative of the child-rearing practices of the parents—is important for the type of material preferred, as it is for frequency of exposure. Boys who are not restricted on amount of exposure show greater preference for AH content ($D = 9.46, t = 3.1, .001 < P < .01$). There are two other indications of this part of the child's environment in this study: whether or not the child gets spanked and who in the family takes the role of the punisher. The first of these—presence of spanking—plays a role in content preferences, though the second does

TABLE 11
MEAN PERCENTAGE SCORES FOR CONTENT
CLASSIFICATIONS BY SEX

Classification	Boys	Girls
Animal	22.06	19.08
Situational ^a	15.30	44.54
Western ^b	14.21	7.27
Crime	7.87	3.91
Spy and war	5.07	1.31
Superforce	4.37	2.36
Horror	3.90	1.09
Space	2.99	1.49
Other ^c	24.23	18.95
Total	100.00	100.00

^a Refers to comedy, variety, and quiz programs; musicals and comedies; and comic book stories centering on family themes.

^b Jungle stories are included in this category.

^c Includes all categories that do not apply to all three media, and choices that were impossible to classify.

¹⁴ For most of the analysis in this section, D —the difference of average percentage scores between two groups—is used to indicate the relative importance of the factor under consideration, similar to the use of r_m in the previous section. A t test is used when the statistical significance of such a difference is considered.

not. Boys who sometimes get spanked show greater liking for AH content than boys who do not get spanked ($D = 9.86$, $t = 3.5$, $P < .001$).

IQ , which, as has been shown, is important for amount of exposure, also relates to differences in content preferences. Boys with low IQ 's show greater preference for AH material than do high IQ boys ($D = 8.18$, $t = 2.6$, $.001 < P < .01$). With respect to achievement relative to IQ , it turns out that boys who are over-achievers—whose grades exceed their IQ —tend to show more liking for this type of material than boys who are under-achievers ($D = 10.05$, $t = 2.5$, $.01 < P < .02$).¹⁵

What of the psychological variables of this study? How do they relate to content preferences? Neither degree of problems nor direction of punitiveness affects preference for AH material among boys. Rebellious independence, on the other hand, shows such a relation. Boys who are rebelliously independent show more liking for AH content than do nonrebellious boys ($D = 10.13$, $t = 2.9$, $.001 < P < .01$). The stated desire of boys of this age to go alone to the circus seems to be accompanied by liking for this type of material.

There are then, four factors that affect liking of AH content among boys. On the basis of the amount of difference they make in preference for this type of material, they can be ranked in order of importance: rebellious independence, spanking, amount of restriction, and, least of all, IQ . The relation of achievement to IQ also seems to show such a relationship, but because of the small number of cases the conclusion here remains more tentative. It should be pointed out that these factors are related to AH preference independently of each other.

Even though problems show no direct relation to content preferences, it is possible that the relation between some of these

factors and preference for AH content differs in the different problem groups. One of these elements— IQ —is conditional on the problem level of the child. Among boys with many problems, those with low IQ 's show greater preference for AH content than those whose IQ 's are high ($D = 8.46$). In the group with few problems, however, the picture changes. In this group IQ no longer makes much difference ($D = 2.36$): the low IQ child who has few problems does not show much more liking for AH material than the corresponding high IQ boy.

To summarize: boys who are rebelliously independent, get spanked, are not restricted on exposure time, and have low IQ 's show particular preference for AH content. Further, IQ is mainly determining of the content preferences of children with many problems.

These factors indicate that content preferences of boys are somewhat more related to psychological characteristics than is the amount to which they are exposed.

Frequency of exposure and content preferences of boys. Boys who are much exposed to the pictorial media show greater preference for AH content than do those with low exposure ($D = 11.53$, $t = 3.8$, $P < .001$). Hence, more than amount of exposure differentiates the high and low groups; these groups also differ in their preferred content. This relationship can be interpreted in a number of ways. High exposure may influence a boy in such a way that he will come to prefer content of this type. Conversely, it is possible that it is the children with a particular liking for AH material who will expose themselves most. On the basis of the material in this study, one cannot prove that one of these possibilities is right, the other wrong. One can, however, investigate the relationship, and on the basis of such an analysis make an inference as to which seems more plausible. First, however, it is necessary to take into account another alternative: the relation might be explained by the joint effect of a third factor on amount of exposure as well as on preference for AH content.

Two factors—parental restriction of ex-

¹⁵ Because of the ceiling effect mentioned in Footnote 11, only boys whose IQ 's do not fall into the top or bottom two categories are used in this comparison. This limitation leaves only 16 over-achieving boys; hence, the result is tentative at best.

TABLE 12

BOYS' MEAN PERCENTAGE SCORES OF AH CONTENT BY EXPOSURE AND REBELLIOUS INDEPENDENCE

Exposure	Rebelliously Independent	Non-rebellious
High	46.45 (N = 31)	32.45 (N = 40)
Low	31.65 (N = 20)	26.65 (N = 46)

posure time and the child's IQ—are associated both with exposure and with content preferences. Either might explain the relationship under consideration. Neither, however, does. Boys with high exposure show more preference for AH content when they have high IQ's as well as when their IQ's are low. Similarly, boys whose exposure time is not restricted show greater preference for material of the AH variety when they have high exposure. In the restricted group, on the other hand, this difference disappears. Perhaps children who are highly exposed to the pictorial media, despite parental restriction, do not increase this possible area of conflict further by preferring material disliked by their parents. Since, however, the relation between amount of exposure and preference for AH content remains in the unrestricted group, the factor of parental restriction cannot be said to explain this relationship. The analysis of the nature of this association, therefore, remains.

One way of approaching this question is to investigate the interaction of exposure and the psychological characteristics of the child with regard to his content preferences. One of these psychological factors—rebellious independence—is independently related to content preferences. Table 12 gives the joint relationship of this element and amount of exposure to liking for AH content. As is shown by this table, rebelliously independent boys who are highly exposed to

TABLE 14

BOYS' MEAN PERCENTAGE SCORES OF AH CONTENT BY EXPOSURE AND DIRECTION OF PUNITIVENESS

Exposure	Extrapunitive	Intropunitive
High	43.82 (N = 38)	33.86 (N = 35)
Low	28.82 (N = 34)	33.18 (N = 34)

the pictorial media are the ones who show greatest preference for AH content—more than would be expected by the mere addition of the influence of each of these two factors.

A similar phenomenon is apparent when AH preferences are looked at for children in different exposure-problem groups, as can be seen in Table 13. Again it is the combination of many problems and high exposure that is most associated with a great deal of liking for AH material.

Table 14 shows how the effect of exposure on content preferences relates to direction of punitiveness. Here, too, it is the boys with extrapunitive tendencies and high exposure who show particular preference for this type of material.

As a digression it is of interest to note that the direction of punitiveness of the child has a different effect on preference for AH content when the child has low exposure than when he has high exposure. If one accepts the premise that children who show great preference for AH material do in fact see more of it, one might speculate that extrapunitive boys use this type of material as an outlet for reactions that might otherwise result in somewhat anti-social behavior. Tentative confirmation of this interpretation comes from looking at the grades the boys have in conduct.¹⁶ Among boys who get high grades in conduct, the extrapunitive ones have greater preference for AH material than do the intropunitive ones ($D = 5.90$). Among boys

TABLE 13

BOYS' MEAN PERCENTAGE SCORES OF AH CONTENT BY EXPOSURE AND PROBLEMS

Exposure	Problems	
	Many	Few
High	44.30 (N = 40)	33.25 (N = 48)
Low	28.33 (N = 42)	27.64 (N = 47)

¹⁶ Boys who in their conduct grades for 1954-55 received at least one A were considered as having high conduct grades; those receiving nothing higher than a C were considered as the low conduct group. The results are not more than tentative because only 55 boys have low grades on conduct, a number which, when broken down by other variables, is not very large.

with low conduct grades, however, the relation is reversed: extrapunitive ones show less preference for AH content than intropunitive ones ($D = 12.10$).

To summarize on the main point: boys who are highly exposed to the pictorial media are more attracted to AH content than are those with low exposure. This differential in content preferences is particularly apparent when high exposure is combined with problems in a child's life, extrapunitive leanings, or rebelliously independent tendencies.

These findings, combined with the result previously mentioned (that amount of exposure of boys is more socially determined, content preferences more psychologically), lend support to the following interpretation of the relation between exposure and content preferences: the combination of certain psychological characteristics in the child and high exposure to the pictorial media leads a boy to prefer the aggressive-hero type of material. This point will be considered more fully in the concluding section. Independent of interpretation, however, the above discussion shows that exposure groups are more complex than mere differences in frequency would indicate.

Girls' content preferences. It has already been mentioned that girls generally show little liking for this type of material. This fact is not particularly changed by any factor: no single element relates significantly to girls' preferences for AH content. Keeping this over-all uniformity in mind it might still be of interest to note the three factors that create the greatest differences in degree of liking for AH material among girls. They are, in order of importance, rebellious independence, direction of punitiveness, and IQ. Like the boys, rebelliously independent girls tend to show more liking for AH content than do nonrebellious ones ($D = 5.48$), and girls with low IQ scores show more than those with high IQ's ($D = 4.47$). Extrapunitive girls have a tendency to state more AH preferences than do intropunitive ones ($D = 4.91$).

Surprisingly, amount of exposure—which is not independently associated with AH preference—is quite strongly related to lik-

ing for AH content among girls with few problems. In this group, high exposure does seem to be accompanied by preference for material of the aggressive-hero type ($D = 14.96$). Further, extrapunitive tendencies and rebellious independence in girls are particularly strongly related to liking for AH material when accompanied by few problems (rebellious independence: $D = 11.71$; direction of punitiveness: $D = 20.55$).

The general conclusion must still be that girls' content preferences are not very much influenced by any of the factors under investigation. A number of relations, however, seem to be intensified in the group with few problems. As has already been indicated in the preceding section, girls generally show more uniformity than do boys; they seem to gravitate toward a norm. Perhaps it is only the girls with few problems who can afford to deviate from this norm and to be influenced fully by their own individual characteristics. Whether or not this interpretation is correct, one is left with the undeniable fact that as far as content preferences are concerned, girls show a much more uniform pattern than is shown by the boys.

REACTIONS TO A COMIC BOOK

The present section investigates the way children view a specific example of the mass media—a comic book. An attempt is made to isolate the behavioral and cognitive reactions to this comic book of children with high and low exposure and different psychological characteristics.

The data of the present section are based on interviews with 100 boys selected from the original sample on the basis of their degree of exposure and problem score, and equated, as closely as possible, on certain social characteristics and capabilities.¹⁷

¹⁷ See Appendix A for a description of the selection of these groups. The distribution of the boys interviewed on these characteristics is available in the dissertation copy (Bailyn, 1956, p. 60). Genevieve Rogge Meyer shared with me the task of conducting these interviews; I am most grateful for her expert help.

Behavioral Aspects

Each boy was told to read the comic book in the same way he would if he were at home and to take as much or little time with it as he wanted. Unknown to him, the interviewer kept track of the time he spent on it. The average time spent was 19.1 minutes, with a range of from 5 to 47 minutes. The children with high exposure spent less time on the comic book—an average of 16.9 minutes—than did those with low exposure, whose average was 21.2 minutes ($D = 4.3$, $t = 2.3$, $.01 < P < .025$). This difference is intensified among children with high IQ's ($D = 6.0$). Among low IQ boys, whose reading is somewhat slower, exposure does not make quite as much of a difference ($D = 3.6$).¹⁸

The interviewer observed each child carefully—though not obviously—as he read the comic book. One point noticed was whether the child seemed to be reading the comic book or whether he mainly looked at the pictures. A little over half of the children (52%) seemed to be reading; somewhat over one fourth (27%) concentrated mainly on the pictures; of the rest (21%) it was either impossible to tell or both approaches were used by the child at different times. The children who read spent more time on the comic book than those who concentrated on the pictures. There was not much difference between high and low exposure children in this respect: children with high exposure showed somewhat more of a tendency to look mainly at the pictures than did those with low exposure. However, even when children who read the comic book are separated from those whose emphasis was on the pictures, high exposure boys spent less time on it:

	<i>Read</i>	<i>Pictures</i>
High exposure	21.9 min.	9.8 min.
Low exposure	26.1 min.	13.2 min.

¹⁸ The high IQ children in the interview sample are divided fairly evenly into high and low exposure groups. The matching was less successful with regard to low IQ; these children are more heavily represented in the high exposure group, with the result that there are only 9 children with low exposure who have low IQ's.

TABLE 15
PERCENTAGE OF CHILDREN WITH DIFFERENT DEGREES OF INVOLVEMENT IN THE COMIC BOOK BY EXPOSURE

Exposure	Level of Involvement			Total
	High	Medium	Low	
High	52	36	12	100 ($N = 50$)
Low	26	50	24	100 ($N = 50$)

The interviewer also recorded the degree of the child's absorption in the comic book, his awareness of people and events around him, restlessness and other nervous gestures, expressions. On the basis of this information each child was assigned to one of three levels of involvement with the comic book.

High involvement: children who were rated as completely absorbed, showed no awareness of the experimenter or external events (with the exception of a few cases where an interruption occurred that had to be responded to), sat relatively still, and showed no overt signs of boredom, lack of interest, pure task orientation.

Low involvement: children who did not seem absorbed in the reading, showed awareness of external events, whose behavior indicated lack of interest, boredom.

Medium involvement: children whose behavior fell between these two groups.

The interviewer, of course, had no knowledge at the time of the interview of which exposure-problem group the child belonged in.

Over one third of the children (39%) were highly involved, 43% showed a medium degree of involvement, and 18% did not seem involved at all. Table 15 shows the degree of involvement of children with high and low exposure.

As can be seen from this table, children with high exposure showed much more involvement in the comic book than did those with little habitual exposure to the pictorial media ($\chi^2_{(2 \times 3)} = 7.5$, $.01 < P < .0125$). This difference between habitually high and low exposure children in the degree of their involvement in the comic book persists for children with many or few problems, those who are extrapunitive or intropunitive, and

those with nonrebellious tendencies. Among the group of boys who are rebelliously independent, however, those with low exposure show a slightly higher degree of involvement than do those with high exposure.

There are, then, certain behavioral differences between children who are habitually highly exposed to the pictorial media and those who are not, when confronted with a comic book. High exposure boys spent less time on the comic book but became more involved in it than did boys with less exposure.

Cognitive Aspects

A comic book story is a unique thing; yet it has many points of similarity with other comic book stories. The question raised now is whether children with high exposure tend to view a particular story as an example of a type rather than as unique. Are they more attuned to the typical elements in the story, and less to the unique, than children with low exposure? As a result of acquaintance with this type of material on the one hand, and, on the other hand, of the use to which it is put, the expectation is that children with high exposure—perhaps only when accompanied by certain psychological characteristics—view the stories more as fitting into a general structure than as unique.

Each child who participated in the interview was asked to tell the interviewer the stories he had read. After each retelling the experimenter asked the child a number of specific questions dealing with the story.¹⁹ If it is true that the child with high exposure views the stories more as a type than the low exposure child, he should remember fewer of these specific details. The average number of details remembered was 10.7 out of a possible 24, with a range of from 1 to 21. The mean for children with high exposure was 9.7, for those with low exposure, 11.6, a significant difference ($t = 2.3, .01 < P < .025$).

¹⁹ Because of lack of space material from the interview session could not be included here. This material is available in the dissertation copy (Bailyn, 1956, App. B).

TABLE 16
AVERAGE NUMBER OF DETAILS REMEMBERED BY EXPOSURE AND INVOLVEMENT

Exposure	Involved	Uninvolved ^a
High	11.2 ($N = 26$)	8.2 ($N = 24$)
Low	12.0 ($N = 13$)	11.5 ($N = 37$)

^a The medium and low levels of involvement have been combined to form this group.

There are, however, other factors that determine the number of details remembered by a child. The child's IQ and the amount of time spent on the comic book are perhaps the most relevant. One would expect a child with high IQ to remember more details than one with low IQ; and a child who spent more time on the comic to have a better recall of the elements in it than the child who read it very fast. Both of these expectations are confirmed. However, even when the amount of time is held constant, children with high exposure remember fewer details: adjusted means—high exposure, 10.0; low exposure, 11.4; $t = 1.7, .025 < P < .05$. It should be pointed out that the difference is especially evident among children who spend little time on the comic book; among those spending a great deal of time on it there is less difference between exposure groups. Neither does IQ account for this relationship. In the low IQ group, exposure does not affect the number of details remembered; among children with high IQ, however, the relation is much intensified.

Boys with low exposure do remember more of the details of a comic book story than do those with high exposure. These boys are also less involved in the comic book. Table 16 shows the number of details remembered by high and low exposure boys with varying degrees of involvement in the stories.

Two things are immediately apparent from the table. Involvement does not seem to affect the number of details remembered by children with low exposure, whereas it is an important factor for those with high exposure: boys in this group who are involved remember more details than do those uninvolved. Further, the table shows that children who are involved in the story remember about the same number of details from it whether they have high or low exposure.

On the basis of the hypothesis that children with high exposure are more attuned to the typical elements in the comic book than are those with low exposure, one would not expect the involved children with high exposure to remember as many details

as those with low exposure, unless their memory centers around elements that occur in many comic book stories—around typical elements.

The third story the children saw—Strongman—is a good test case of this point.²⁰ Just as Strongman is about to subdue the Communists—the villains of this story—he is knocked out. Such an occurrence is not unique to this particular story. The hero often faces such a difficulty—it makes his eventual success more dramatic. If children with high exposure remember such a typical detail—frequently, as in this case, aggressive—more often than children with low exposure, and if this difference is especially apparent for children with high involvement, there would be evidence for the inference that boys with high exposure do view the story as more typical.

In trying to answer these questions a difficulty arises: children with low exposure tend to remember more details in general, and there is no reason to question the generalization of this tendency to more typical details, even if these children do not view them as such. True, in the high involvement group the difference resulting from degree of exposure is not great, and of the children in this group who are highly exposed 77% remember this typical aggressive detail,²¹ as opposed to 62% of the equivalent low exposure group. However, there is, perhaps, a better way of approaching this problem.

Because of the fact that Strongman was knocked out, the Communists are able to get on their ship. Strongman revives just as they are leaving the dock and now faces the problem of boarding the vessel. His solution is to hop on a crane on a grain loading gallery which his midget friend and helper

TABLE 17
NUMBER OF BOYS REMEMBERING TYPICAL AND
UNIQUE DETAILS BY EXPOSURE

Unique Detail	Typical Detail			
	High Exposure		Low Exposure	
	Right	Wrong	Right	Wrong
Right	13	2	16	10
Wrong	23	12	15	9

operates. This fact—that he boards the boat by means of a crane on a loading gallery—is as important to the plot of the story as is the fact that he was knocked out. However, one cannot say that boarding a ship in this way is an element common to comic book stories in general; rather it is unique to the particular plot of this story. If the hypothesis is correct, children with high exposure ought to remember the typical element—that Strongman was knocked out—more than the unique one,²² whereas among low exposure boys there should be no such difference. Table 17, which shows the data on this point, indicates that high exposure children are much more likely to remember the typical than the unique detail ($\chi^2 = 16.0, P < .0005$), whereas among low exposure boys there is little difference ($\chi^2 = .6, .25 < P < .50$).

Hence, the first premise would appear to be correct. The question still remains whether this difference in type of detail remembered is intensified among children with high involvement.

When memory of the typical element is compared with that of the unique detail of how Strongman got on the boat, no such intensification exists. All children with high exposure remember the aggressive detail more, whether involved or not. The structure of the story is such, however, that these two details are closely related to each other in terms of plot and in terms of spatial proximity. Hence, the highly involved child with high exposure, whose tendency may be to concentrate on this part of the story might, because of this very involvement, show good recall of a unique detail closely

²⁰ See General Procedure in the Introduction for a short description of this story. The comic book itself is available in the dissertation copy (Bailyn, 1956, App. B).

²¹ "What happened to Strongman after he upset the fork lift?" If a child did not remember the fork lift incident, the interviewer explained the setting to him in detail to insure that the measure of memory of the aggressive event would not be influenced by memory of a previous event.

²² "How did Strongman get on the boat?"

TABLE 18
MEAN PERCENTAGE SCORES OF MEMORY OF THE
TYPICAL DETAIL BY EXPOSURE AND INVOLVEMENT

Exposure	Involved	Uninvolved	Total
High	36.3 (N = 23)	31.1 (N = 22)	33.8 (N = 45)*
Low	26.4 (N = 12)	25.6 (N = 34)	25.8 (N = 46)*

* Nine boys—5 with high and 4 with low exposure—gave no correct answers to the Strongman questions and are excluded from the table.

related to a typical one. Comparison with a unique element from an earlier part of the story²³ shows that among high exposure children, those who are highly involved show a greater differential between memory of the typical aggressive and the unique or neutral detail than do children with less involvement.

In an effort to equalize differences resulting from the place of the neutral detail in the structure of the story, memory of the typical detail was compared with the answers to all other detailed questions about this story, by using the total number of Strongman details remembered as a base and assigning percentage scores.²⁴ Table 18 shows the mean percentage scores of memory for the typical detail for children with different degrees of exposure and involvement.

This way of looking at the data confirms the conclusion already drawn: children with high exposure show a greater relative recall of the typical detail than do low exposure children. Further, the table indicates that among high exposure boys, those highly involved in the comic book have a greater tendency toward this selective recall than those uninvolved; among children with low exposure, involvement makes little difference. Boys with high exposure and a high level of involvement are especially attuned to the typical aggressive elements in the comic book.

Both the presence of problems in a boy's life and extrapunitive tendencies seem to in-

²³ "How many cops were necessary to lift the refrigerator?"

²⁴ Children who did not give the correct answer to the typical question were given a score of 0%; a child who answered only the typical detail correctly received a score of 100%; a child who remembered, for instance, three others besides, received a score of $\frac{1}{4} = 25\%$.

crease the effect of high exposure on his perception of the comic book. When these two psychological attributes are combined with high exposure the mean percentage score of memory of the typical detail increases to 48.7%. The other three combinations of these two psychological characteristics and exposure show mean scores between 19.0% and 29.9%. This suggests that high exposure attunes especially the child with problems and extrapunitive tendencies to the typical elements of a comic book—makes him view the comic book more as an example of a type, rather than as a unique story.

As an illustration of this point, the free recalls of the story of Strongman by two boys are presented, one with high and one with low exposure. Both boys have many problems; both have high IQ's; both are extrapunitive. Dick, the boy with high exposure, spent eight minutes on the whole comic book, he was highly involved, and remembered a total of nine details. Peter, with low exposure, spent seven minutes on the comic book, was relatively uninvolved, and remembered ten details. When asked to tell the interviewer the story of Strongman, Peter gave the following account:

"Strongman is trying to show little boys the advantage of leverage. Then he is called out and went to the waterfront. He got into a fight. Someone crept behind him and hit him over the head with a board or pipe. [He] went over [to where] someone asked him to move a meat freezer, I don't know if he moved it or not. He got on the boat—jumped off a grain elevator—and got on the tanker. The FBI said [the boat] had an atom bomb on it to explode in the harbor. Strongman saw men on the deck. He jumped down, banged [their] heads together. [He] stopped the boat and waited for another boat to come and take him off."

This account must be compared with that given by Dick, who differs from Peter in that he is highly exposed. On problems, direction of punitiveness, IQ, and amount of time spent on the comic book the two boys are very similar. Dick's account follows:

"[It's about] Strongman and a bomb on a ship. Strongman is doing stunts. The telephone [rings]. Somebody wants him to bring a big box into a ship or something. A cop there saw a man with a gun fooling around (not sure [for what]). [He was]

looking for the box to get something out. The next picture showed Strongman kicking the box over. (Can't remember. [I have] a short memory.) A man on the boat going off told Strongman to be quiet. 'There's that sneak.' [Strongman] chased the man on a big steamer. [They] knocked Strongman out. The little kid told him where the bad men had gone—on the boat. Strongman jumped on the boat. An FBI man said, '[They have] a bomb, [they'll] explode the harbor.' 'Now [they] tell me,' [said Strongman]. He jumps fighting. He crashed through the door to the control room and beat him up. He shoved another man down him. He found the bomb."

Neither child had a clear perception of the plot, which is not surprising in view of the fact that neither one spent more than three minutes on this particular story. Notice, however, the difference in treatment of detail. Peter mentions that Strongman is showing boys "the advantage of leverage" (almost the exact words of the story); Dick reports that Strongman is "doing stunts." Peter states that Strongman was asked to move a "meat freezer" (it was a refrigerator); Dick calls it a "box." According to Peter, Strongman was "hit over the head with a board or pipe" (it was a wooden club of some sort); Dick merely reports that someone "knocked Strongman out." Peter has Strongman getting on the boat from a "grain elevator" (it was actually a grain-loading gallery); Dick's account mentions only that Strongman "jumped on the boat."

Content Areas

In the above discussion the nature of one common element to which high exposure children are particularly attuned has been mentioned: aggressive behavior. What other content areas of comic books are part of the typical pattern as perceived by children with high exposure?

Crime and criminals. One such element is the portrayal of criminals. What leads a person to a life of crime? Under what motivation is he functioning? Comic book stories are seldom concerned with such matters; the villains in them are criminals just because they are bad people, and of course bad people commit crimes. Closely allied with this point is that of the nature of crime itself. Is there a moral question

TABLE 19
PERCENTAGE BY EXPOSURE OF RESPONSES TO THE
QUESTION "WHY DID FRANK BECOME
A CRIMINAL?"

Exposure	Concerned		Unconcerned	Total
	Social	Psychological		
High	36	14	50	100 (N = 50)
Low	50	20	30	100 (N = 50)

involved or does the problem of crime center on the technical question of whether or not one is successful or caught? The latter point of view is more emphasized in comic books. As a specification, then, of the general hypothesis, one would expect children with high exposure not to be as concerned with the motivational aspects of criminals as low exposure children, and to view the problem of crime more from a technical than from a moral point of view.

Evidence on these points is obtained from answers the children give to two questions about the first story, which concerns a young criminal, Frank.²⁵ The children were asked why Frank became a criminal and what mistakes he made. The replies to the former question were separated into those concerned about Frank's motivations and those not. A child, for example, who said that Frank became a criminal because he was "just born bad" was considered unconcerned. Concerned answers were divided into two categories: those centering on social factors—"His mother was working, his father was dead, and he had no job"—and those centering around more psychological factors—"He always wanted his own way; no one gave it to him so he became a criminal to get it." Table 19 shows the percentage of boys' responses in each of these categories.

As can be seen from the table, high exposure boys are less concerned about the motivations behind a life of crime than are children with low exposure ($\chi^2 = 3.4, .025 < P < .05$). Of those who give concerned responses, however, boys with high exposure are as likely to give psychological

²⁵ See General Procedure in the Introduction for a short description of this story.

reasons as are boys with low exposure. This result is surprising: one would expect high exposure children to give fewer concerned responses of a psychological nature.

In this particular story there is mention—in one frame on the first page—of the fact that Frank was brought up on the lower east side of New York and that his mother had difficulty supporting him. Of the low exposure children, 50% mention these facts in their free recall of this story; only 28% of those with high exposure do so. This result probably explains the lack of difference found between exposure groups in the type of concerned reasons given. Even if it were true that high exposure children have a tendency to give fewer psychological reasons, this fact would probably be offset by the tendency of boys with low exposure to be more true to the actual details of the story, which, in this case, center on social factors. This point will be mentioned again later.

A child who said that one of Frank's mistakes was that he "surrendered" and "forgot to learn the law of the state" (Frank did surrender because there was no capital punishment in the state he was in; he had committed a federal offense, however) was considered as giving a technical response to the question of what mistakes Frank made. On the other hand, feeling that Frank's mistake was that "he killed people—everyone likes to live," was considered a moral response. Some children, of course, gave a mixture of these two types; their answers were not classified into either category. Table 20, which gives the percentage of responses falling into these categories by exposure, indicates that high exposure boys give more technical responses to this question than do low exposure boys ($\chi^2 = 3.1, .025 < P < .05$).

The two boys introduced above provide

TABLE 20
PERCENTAGE BY EXPOSURE OF RESPONSES TO THE
QUESTION "WHAT MISTAKES DID FRANK MAKE?"

Exposure	Moral	Technical	Unascertainable	Total
High	24	40	36	100 (N = 50)
Low	40	24	36	100 (N = 50)

an illustration for the present point. Dick, with high exposure, feels that Frank made a mistake to "use hand grenades" because he "could have knocked the guy out without killing him" and that "when trying to rob the guy with a knife" his mistake was that he "doesn't know how to use a knife well" or, he added, "a gun for the phone booth man." This response was considered a technical one. His answer to the question why Frank became a criminal—because he "disliked cops"—was classified as unconcerned. He gave no indication, in his free recall of the story, of having noticed the limited background facts given in the comic book.

Peter's list of mistakes—"tied up with the man who gave him a job; trying to make up for his first mistake by trying to kill an FBI man; to kill an officer; breaking out and robbing a bank"—was considered unascertainable, neither clearly moral nor clearly technical. He gave a socially concerned reason for Frank's becoming a criminal: "Didn't have anyone to tell him different, under the influence of other men." His free recall started with the following: "Boy's father died; he got in with the wrong people; he had no one to guide him."

A lack of concern for the motivations of a criminal and a technical, rather than a moral, view of crime, then, seem to comprise another typical aspect to which boys with high exposure are particularly attuned.

Law enforcement. What about the other side of the coin, the view of the recognized law enforcement institutions of society? Some comic books, of course, rely on society's accepted officers of the law as their heroes; others, however, reach into the world of fantasy to supply this need, often to the detriment of the policemen and FBI agents who also appear in the stories. One such story is the last one shown to the children—the story of Strongman. When asked what would have happened if Strongman had not been around, most children answered in terms of the comic book plot: "Gang would have gotten away in the ship" (get away); "Would have set off atomic bomb" (blowing up); "The crooks would have got what they wanted" (generalized success). A few went beyond the story in

TABLE 21

PERCENTAGE BY EXPOSURE OF RESPONSES TO THE QUESTION "WHAT DO YOU THINK WOULD HAVE HAPPENED IF STRONGMAN HADN'T BEEN AROUND?"

Exposure	Get Away	Blow- ing Up			More Success	Caught Threat	Anyway	Total
		General- ized	Success	Threat				
High	46	30	16	2	6	100 (N = 50)		
Low	45	31	6	4	14	100 (N = 49)		

* One boy, who answered this question by saying "there wouldn't have been a story," is excluded from the table.

the direction of more future threat: "Would have escaped—left the harbor—and later Communists would have sent destroyers." Only some said that "sooner or later cops, even without help, would have gotten them." As can be seen in Table 21, there is little difference in the answers to this question given by boys with high and those with low exposure. Boys with high exposure give somewhat more "generalized success" responses and somewhat fewer "caught anyway" answers ($\chi^2 = 2.3, .05 < P < .10$).

Some children specifically said that the police didn't "dare go near them" or mentioned, in their free recalls, the somewhat snide remark of Strongman when a policeman told him of the bomb in the boat: "Now he tells me!" (see, for instance, Dick's recall of this story). Of the boys with high exposure, 26% give indication of having noticed this negative attitude toward the police; 16% of the low exposure boys mentioned it.

There seems, then, to be a slight tendency for children with high exposure to show greater perception of a negative attitude toward the ordinary law enforcement agencies as shown in the third story of the comic book.

Threat to earth. A final content area investigated is that of threat to earth from space. Many space stories, especially those in comic books, center around this theme; hence, the question arises whether the portrayal of such threat is another common element to which high exposure children might be particularly attuned. It should be pointed out, however, that there is another type of space story—most frequent on television—that centers on the adventures of man in space, and though conflicts occur in these

TABLE 22

PERCENTAGE BY EXPOSURE OF RESPONSES TO THE QUESTION "IF THE STORY HAD CONTINUED, WHAT WOULD HAVE HAPPENED NEXT?"

Exposure	Man into Space	Threat to Earth	Other*	Total
High	18	34	48	100 (N = 50)
Low	28	20	52	100 (N = 50)

* Of these responses, 46% center solely on the dog in the story: "The master would keep the dog and be more patient with him." Both Peter and Dick gave this type of response. Children who gave a purely dog-oriented response tend to have many problems and be extrapunitive; their exposure is a little more likely to be low than high.

stories too, they do not necessarily center on the aspect of threat to earth. The distinction between these two types of space stories was nicely made by one of the boys interviewed when he compared stories like *Space Cadet* (emphasis on man in space)—which he prefers—to the second story in the comic book, which he perceived as a threat to earth type of story. Of the *Space Cadet* type he said "they're not fantastic—they may be crazy but they're not fantastic." Since, however, the present section deals with comic books, which often feature the threat type of story, and since the high exposure children read more comic books than those with low exposure, the point may still be investigated.

One thing asked the children about the space story in the comic book was what they think would have happened next, if the story had continued.²⁶ One half of the children gave answers not dealing with the problem of earth and space at all, but centering, rather, on the immediate details of the story. Some, however, felt that the people in space would "send more men and conquer earth." A threat response of this nature was contrasted with a response that centered on man going into space: the scientist would have "invented time machine, went there" and would have "made modern things on the moon." Table 22 shows the responses given to this question by children with high and low exposure. It shows a slight tendency for children with high ex-

²⁶ See General Procedure in the Introduction for a short description of this story.

posure to give somewhat more "threat to earth" responses, those with low exposure to favor the "man to space" type of response ($\chi^2 = 2.0, .05 < P < .10$).

Characterization

What impression do the children have of the people in the comic book stories? In what terms do they evaluate them? Each child was asked, at the end of his free recall about a story, what every person he mentioned was like. The answers to these questions provide the following data.

Each characterization was classified, first, into three major categories: descriptive, evaluative, or explanatory. Further distinctions can be made within each of these types. Thus, the characterization of a person as "tall, not too skinny or fat; had mustache and black hair" is physically descriptive. A description of the same person as one who "came home from a long trip—had to do with business—was tired and grumpy" is a statement descriptive of action. A third descriptive category is exemplified by the statement "He's the kind of person who would take candy from a baby"—a statement descriptive of character. Hence, descriptive statements were divided into those that were physically descriptive, descriptive of action, or descriptive of character.

Evaluative statements were divided into those in which the terms of evaluation were completely stereotyped—"What was the chief on the ship [Strongman story] like?" "Very bad"—and those in which evaluations were based on specific attributes of the person involved—" [Strongman] didn't brag—he was very nice." There are, then, stereotyped and nonstereotyped evaluative statements.

An explanatory characterization delves into the motivations of a person. "The boy would have been all right if he were brought up right" is explanatory in a social sense: "[The space leader] wanted to be king" is an attempt at explanation in a more psychological vein.

A certain percentage of every child's statements fell into each of these categories. Table 23 gives the mean percentages for all

TABLE 23
MEAN PERCENTAGE OF CHARACTERIZATIONS
FALLING INTO DIFFERENT CATEGORIES

Category	Mean Percentages
Descriptive	54.2
Physical	11.3
Action	22.7
Character	20.2
Evaluative	33.2
Stereotyped	24.0
Nonstereotyped	9.2
Explanatory	3.1
Social	2.0
Psychological	1.1
No answer, unclassifiable	9.5

Note.—The base on which these percentages were computed—the number of people mentioned—varies greatly from person to person. The mean number for the whole group, for all three stories, is 13.8. Low exposure children mention 14.4 people on the average, high exposure 13.2.

the children. There is no difference between children with high and those with low exposure on the percentage of their statements in each of the major categories: on the average, a little over half of the statements of children with either degree of exposure were descriptive; about one third were evaluative; only around 3% were explanatory. Are there distinctions within these categories?

One might recall at this point the following exchange reported by the novelist Steinbeck (1955) of a conversation with his son Catbird, about a cowboy story on television:

"Now wait," I [Steinbeck] said, "which one is the Good Guy?"

"The one with the white hat."

"Then the one with the black hat is the Bad Guy?"

"Anybody knows that," said Catbird.

To Steinbeck's son, characterization in these stories is obviously portrayed by means of physical attributes and even stereotyped costuming. However, it requires some practice to be able to orient oneself to the structure of a plot in this way. One would expect children with high exposure to be more adept in this way of viewing television or comic book stories.

It turns out that 24.8% of the descriptive statements of boys with high exposure are physical in nature; 20.8% of those with low exposure fall into this category. This difference, though in the expected direction, is not statistically significant. On further in-

vestigation, it appears that this type of descriptive characterization seems to be mainly used by high exposure boys who have many problems and who are extrapunitive. Among these children the mean percentage in the physical description category increases to 45.7%; the other combinations show means between 14.4% and 32.4%. This indicates that a child with many problems and extrapunitive tendencies who has high exposure is most likely, in his descriptive characterizations of people, to concentrate on physical attributes.

As can be seen in Table 23, a large percentage of the evaluative characterizations of children are stereotyped in nature, a percentage one would expect to be increased among children with high exposure. Of the evaluative statements of high exposure boys, 70.2% are stereotyped as opposed to 61.3% of those with low exposure. This difference, though in the expected direction, is not statistically significant. Again, however, an intensification of this tendency appears among high exposure children with many problems. In this group, 78.9% of the evaluative statements are stereotyped; the mean percentages in the other groups range from 53.3% to 64.9%.

When extrapuniteness is added to many problems among children with high exposure, this percentage increases to 81.0%. However, this group does not stand out particularly from that with high exposure, few problems, and intropunitive tendencies (73.4%), or that with low exposure, many problems, and extrapunitive tendencies (77.8%). Rather, in the case of stereotyped evaluative statements, it is the children who have few problems, are intropunitive, and have low exposure who give outstandingly few stereotyped evaluative characterizations: only 52.1% of their evaluative statements are stereotyped.

In discussing the view the children have of the motivations of a criminal the expectation was stated that children with low exposure, if concerned about such motivation, would give more psychological reasons,

those with high exposure would give more social ones. At that time this expectation was not realized because of the greater literalness of low exposure children who picked up the social facts given in the story. The present data provide another opportunity to investigate this question. Of the explanatory characterizations given, are those of children with high exposure more frequently put in social terms? Unfortunately, only thirty children—fifteen with high and fifteen with low exposure—gave explanatory characterizations, hence the information is limited. The data on these thirty, however, tend to confirm the hypothesis: of the explanatory statements given by children with high exposure, 82.2% are social in character; only 60.0% of those with low exposure are.

Reality

At the end of the questions on Strongman the children were asked whether they feel that in real life the FBI is frequently helped in this way and whether they think that events such as were portrayed in the story really happen. Children with high exposure were more likely to feel that the FBI is frequently really helped in this way ($\chi^2 = 3.4, .025 < P < .05$); a similar, though not statistically significant, trend appeared in the answers to the question directly asking about realism. When asked directly, high exposure and a feeling of realism is associated mainly among children with many problems, as can be seen in Table 24. Children with many problems and high exposure are the ones most likely to view a story, such as Strongman, as in some way representing reality to them.

TABLE 24
PERCENTAGE BY EXPOSURE AND PROBLEMS
ANSWERING "YES" TO THE QUESTION "DO
THINGS LIKE THIS HAPPEN IN
REAL LIFE?"

Exposure	Problems	
	Many	Few
High	60 (N = 25)	32 (N = 25)
Low	36 (N = 25)	32 (N = 25)

Information is available, as has been mentioned before, on parental restriction of exposure time. Further, there is information on whether parents try to restrict children on certain types of comic book stories, of which Strongman is probably an example. Suppose that children are restricted on this type of story, yet read examples of it anyway. Will they then interpret the restriction as keeping a "bad" part of reality from them and consequently view the stories as more realistic? Of the children with low exposure, 34% say "Yes" to the realism question; this percentage changes to 36% among the children whose parents restrict the type, though not the amount, of stories they read. In contrast, among high exposure children the over-all "Yes" percentage of 46% is increased to 68% in the group restricted on type only. Among high exposure boys with many problems, 83% give "Yes" answers when restricted by type only. This intensification of the feeling of realism does not occur among children restricted both on amount and type. These children, perhaps, are used to restriction and put no special interpretation on not being allowed to read a certain type of story.

To summarize, high exposure boys are more attuned than those with low exposure to the typical elements in a comic book: for instance, aggression, threat, an amoral view of crime with little concern for the reasons why a person turns to such a life, a negative attitude toward the police. Further, high exposure children tend to emphasize physical characteristics of the people in the stories, use stereotyped terms in evaluating them, and explain their behavior in terms of social factors. They also seem to have more of a feeling of realism about the story's content. Most of these differences are especially evident among high exposure boys with certain psychological characteristics, mainly problems in their daily lives or extrapunitive tendencies.

SOME COGNITIVE CORRELATES AND EFFECTS OF EXPOSURE TO THE PICTORIAL MEDIA

In the course of the discussion in the last section, certain relationships between thought processes and high exposure were

indicated. The present section centers solely on these relationships: Which of the thought processes under investigation in this study are correlates of exposure, and which of these correlates may be considered effects of exposure?²⁷

The four areas of possible correlates under investigation are stereotyping, perception of threat, active or passive tendencies, and the nature of the projected self-image of the child. In the section on psychological and cognitive characteristics, the relation of these factors to social and psychological characteristics was discussed; the present section introduces differences in exposure. Since there are sex differences in these cognitive factors, the discussion treats boys and girls separately.

On the basis of the nature of some of the mass media, especially television programs for children and comic books, the prediction was made that children with high exposure would be more stereotyped in their view of people and would perceive more threat in their environment. These hypotheses are based on the fact that many stories which children see present human beings in black-and-white terms, either very good or very bad, very weak or very strong. Frequently the plot centers on an individual helpless in the face of a threat from external forces, from another country or planet or spy rings within the community; eventually he is helped by some heroic figure, often one with attributes the poor individual cannot possibly have or hope to have. It seems logical to assume that if exposure to the pictorial media has any effect whatsoever, it will consist, partly, of incorporation into

²⁷ The distinction between cognitive correlates and effects was drawn in the introductory section. There it was stated that the experimental data of this study would provide the means by which inferences on effects may be made. The general results of the experiment and the data relevant to the establishment of cognitive correlates are presented in this section, but space limitation makes it impossible to include the details of the experiment. These may be found in the dissertation copy (Bailyn, 1956, Ch. IX). It should be said that technical difficulties in the experimental procedure precluded a definitive test of the hypothesis and the results obtained must be considered tentative.

the child's thought processes of such repeated elements. The way these stories depict character may lead to stereotyped classification of nonfictional people; the constant reiteration of danger may result in a child's perception of threat in his actual environment. It should be noted that these hypotheses depend not only on the amount of exposure but also on the content of exposure. Not all television programs or comic books contain these elements.

Stereotyping

Exposure and stereotyping are indeed related among boys: those with high exposure also have higher stereotype scores ($t = 2.3, .01 < P < .025$). Of the twelve items, responses to which comprise a boy's stereotype score, four are particularly strongly differentiated by exposure:

- (1) Why do people who commit crimes do so?
- (2) People are either all good or all bad.
- (3) Why do some people tell lies?
- (4) There are only two types of people in the world, the weak and the strong.

Boys with high exposure are more likely to answer the first item by the response "Because they are naturally bad" ($\chi^2 = 4.3, .0125 < P < .025$), to feel that the second statement is true ($\chi^2 = 2.9, .025 < P < .05$), to answer the third by "Because they are naturally dishonest" ($\chi^2 = 3.7, .025 < P < .05$), and to feel that the fourth statement is true ($\chi^2 = 3.1, .025 < P < .05$). Further, this relationship persists when certain background characteristics (father's occupation, religion, IQ, and amount of parental restriction) associated with both stereotyping and exposure are held constant.

What about the effect of the psychological characteristics on this relation? Is it exposure per se that accounts for this difference in stereotype scores or does an increase in stereotyping appear only when exposure is combined with certain psychological tendencies within the child? Table 25 presents the data relevant to this point with regard to the problems a child has.

As can be seen from the table, it is mainly the existence of high exposure in conjunction with many problems that leads to a

TABLE 25
BOYS' MEAN STEREOTYPE SCORES BY EXPOSURE AND PROBLEMS

Exposure	Problems	
	Many	Few
High	4.82 ($N = 40$)	3.94 ($N = 47$)
Low	3.70 ($N = 43$)	3.65 ($N = 46$)

greater tendency toward stereotyped thought. Both the presence of problems in a boy's daily life and high exposure to the pictorial media are necessary to increase stereotyping.

Further, an increase in stereotyping occurs when high exposure is accompanied by extrapunitiveness, as can be seen in Table 26. A boy who is extrapunitive and also highly exposed to the pictorial media will tend more toward stereotyped thought.

Exposure and the combination of many problems and extrapunitiveness produce a still greater degree of stereotyping: children in this group have a mean score of 5.36. In contrast, the scores of the other three combinations range from 3.34 to 3.60.

The third psychological variable in this study — rebellious independence — does not combine with exposure to increase stereotyping in the same way. Both highly exposed and rebelliously independent boys tend to be more stereotyped than those who are less exposed or nonrebellious. In their relation to stereotyping, exposure and independence are additive factors:

Rebelliously Ind. Nonrebellious
High exposure 4.35 ($N = 31$)
Low exposure 3.95 ($N = 20$)

The initial hypothesis, however, involves content of exposure as well as amount of exposure. The present study includes information on an indirect measure of content, that represented by the child's preferences. Using this measure as an indicator of the

TABLE 26
BOYS' MEAN STEREOTYPE SCORES BY EXPOSURE AND DIRECTION OF PUNITIVENESS

Exposure	Extrapunitive	Intropunitive
High	4.58 ($N = 38$)	3.83 ($N = 36$)
Low	3.59 ($N = 34$)	3.38 ($N = 34$)

content of exposure one would expect children who prefer material of the aggressive-hero type to be more stereotyped. And, indeed, analysis confirms this expectation. The boys who rate "high" on preference for AH material have higher stereotype scores than those who rate "low" ($t = 2.1$, $.01 < P < .025$).

As might be expected, high exposure to the pictorial media accompanied by preference for AH content was found to increase the boys' tendency to stereotype.

High exposure and preference for AH material are especially strongly related among boys who have many problems and among those who are extrapunitive, as has been indicated in the discussion of boys' exposure habits. Many problems and extrapunitive-ness seem to lead a boy to prefer material of the AH variety if his exposure is high; this same child tends to be most stereotyped. Further, there is some evidence that stereotyping is an effect of exposure: low exposure boys with many problems and extrapunitive leanings seem to be most affected by the comic book.

Though the mean stereotype score of girls with high exposure as well as that of girls who prefer AH content is larger than the mean score of those with low exposure and those who have a "low" preference for AH material, neither difference is statistically significant. One cannot say, therefore, that either aspect of exposure differentiates degree of stereotyping among girls.

Perception of Threat

The children's perception of threat is looked at from two points of view: threat to the individual and threat to the country or world. For boys there is no relationship between the former—the personal area—and exposure: neither aspect of exposure is significantly related to scores in the personal area. Nor are these scores increased in a marked way among boys with high exposure and a preference for AH content. It seems that boys' feelings about the relative helplessness of the individual are not related to exposure to the pictorial media. The same is true for the girls.²⁸

Nor among boys does exposure make a difference in the perception of threat to the world. In the case of girls, however, a different picture emerges on this point. Girls who are highly exposed to the pictorial media perceive somewhat more threat to their country or world than do those with low exposure ($t = 3.1$, $.0005 < P < .005$).²⁹ One item is particularly strongly differentiated by exposure: Do you think there is danger that people on this earth will be harmed by beings from another planet? Girls with high exposure are much more likely to think such an occurrence possible than are those less exposed ($\chi^2 = 10.0$, $.0005 < P < .0025$). Surprisingly, preference for AH material does not differentiate girls' perception of threat to their country or world. If anything, girls who prefer this type of content give fewer threat responses than girls who do not. And, as a matter of fact, the girls with high exposure and no particular preference for AH content have the highest scores in the world area.

Passivity

The hypothesis being tested here is that exposure to the mass media is related to passivity. This view is based on the presumption that a high amount of exposure, which represents a passive form of behavior, may be associated with a child's preference for passivity in general, a lack of initiative, and a receptive attitude toward the things around him. Two sets of data are relevant to this question. The first con-

²⁸ This lack of correlation might be explained by the following finding of a study about children and movies (Shuttleworth & May, 1933). When presented with a story in which the hero is threatened by extreme danger and asked to predict what will happen, children who seldom attend movies tend to feel that the hero will succumb; children who see many movies, on the other hand, are more likely to feel that he will escape, even when the means of this escape are highly improbable. Thus the effect of constant reiteration of threat might be offset, among children with high exposure, by the belief in the certainty of escape.

²⁹ Some of this relationship, however, is accounted for by parental restriction: among restricted girls the relation disappears; among unrestricted ones it is reduced.

cerns the preference given by children, in a two-choice situation, for a more active or a more passive form of social behavior.

Boys with low exposure to the pictorial media give more active preferences than do boys with high exposure ($t = 2.4, P = .01$). Of the five items used to determine active preference, two concern a choice between exposure to a medium and an alternative more active activity. In the other three items the active choice represents initiative as opposed to a more receptive attitude implied in the passive choice. Between going to a movie or on a picnic high exposure boys choose a movie more often ($\chi^2 = 4.7, .0125 < P < .025$), and much more frequently pick watching television over playing a game indoors ($\chi^2 = 14.5, P < .0005$) than do low exposure boys. However, responses to the other three items, which concern starting a new club or being asked to join one, giving a party or going to someone else's, deciding which games to play or letting others decide, are not differentiated by exposure. In other words, even though high exposure boys prefer exposure to the mass media to more active alternative activities, this preference for passivity does not generalize to a lack of initiative and a preference for being on the receiving end of a social situation. Hence, on the basis of these data, the hypothesis, though seemingly statistically confirmed, reduces almost to a tautology: boys with high exposure enjoy exposure to the media.

There is, however, another set of data that will throw light on this question. As has been indicated, each child was asked what occupation he would like to have when grown up. These choices were then classified according to whether or not, in view of the child's capabilities and background, they were realistic. Further, the realistic choices were placed into two categories, representing either passive acceptance by the child of the occupational status of the father or active attempts to change this status in the projected future. Among boys, this classification was made on the basis of a comparison of the child's choice and the occupation of his father. Hence, the hypothesis may be restated in terms of this material:

boys with high exposure should give fewer active occupational choices than boys with low exposure. It turns out that among high exposure boys an average of 24% of their realistic choices are active in this sense. The mean for boys with low exposure is 40%, a significant difference ($t = 2.2, .01 < P < .025$). In regard to occupational ambitions, then, high exposure among boys does seem to be associated with a more passive attitude than does low exposure.³⁰

When high exposure is accompanied by many problems, this tendency is intensified: only 19% on the average, of this group's choices are active—represent a hoped-for occupational status different from that of the father.

This hypothesis is not confirmed for girls. Exposure does not affect the number of active preferences given by the girls; neither does it affect their number of active realistic occupational choices.³¹

Projected Self-Image

The last area to be discussed concerns the projected self-image of the child: what type of person he would like to be or the type of work he would like to do. The general hypothesis here is that a child's self-image is colored by exposure to the pictorial media. The responses to two questions provide the data on the basis of which this hypothesis is investigated: the type of occupation the child wants to have when grown up, and the persons, from a list of seventeen, he would most want to be changed into. The former represents a child's pro-

³⁰ Clearly, a child whose father is a top professional has less opportunity to have his occupational choice scored as active than a child whose father is a worker, for instance. Because of this ceiling effect the results obtained give a minimum measure of the difference. It will be recalled that the fathers of boys with high exposure are more likely to be workers than are those whose sons are less exposed. Hence, the ceiling effect works against the hypothesis.

³¹ Only on Item 22—television or game—do girls with high exposure more frequently choose the passive choice of television: $\chi^2 = 4.6, .0125 < P < .025$. Not even the responses to the other item concerning exposure to a medium are differentiated by exposure among girls.

jected self-image in a realistic context, the latter in a fantasy context.

Realistic. The three categories into which most of the boys' first occupational choices fall, as has been seen earlier, are top professional, athletics, and worker. Boys with high exposure introduce a new category which ties with athletics as the third most frequently chosen one. This category might be labeled "cops and robbers"; it includes occupations like policeman, detective, FBI agent. Of the choices of boys with high exposure, 11% fall into this category as opposed to only 4% of the choices of the low exposure boys. This difference, though reduced in some cases, is not obliterated when relevant social characteristics are held constant.

Among boys who, besides being highly exposed, also have many problems, "cops and robbers" proves to be the modal category. More first choices of boys in this group fall into this category than into any other. In contrast, the modal category of the other three exposure-problem groups is top professional or, in the case of the group low on both, engineer.

Among girls there is a similar phenomenon with respect to the category of entertainment. Occupational choices like actress and singer occur more frequently among high exposure girls than they do among girls with low exposure. In the group of girls with high exposure and few problems this category is the modal one. All the other exposure-problem groups have lesser professional in general or teacher specifically—the two most frequently chosen categories of the girls as a whole—as their modal category. This result lends support to a conclusion already drawn: it is only the girls with few problems who seem to show, at times, some deviation from the fairly uniform norms of girls' behavior.

Exposure, therefore, is not unrelated to the nature of the child's occupational choices. But can one say that occupational choices of children with high exposure are derived from the content of the pictorial media? A difficulty is immediately apparent. Take, as an example, a boy who wants to be a policeman. One's first conclu-

sion might be that this choice is derived from the media. His father, however, might be a truck driver who has a policeman as a very good friend; this direct contact might be the source of the boy's choice. Whether such an influence does or does not exist in the child's life one cannot, from the present data, know. The best that one can do is to infer the probability of such an event. One can say that the probability of such direct contact and resulting influence is higher in the life of a truck driver's son than it is in that of a boy whose father is an architect, for instance.

Classifying occupational choices as realistic or unrealistic takes account of this consideration. The truck driver's son's choice of policeman would be classified as realistic, that of the architect's son as unrealistic. Hence, the question of media orientation of occupational desires is best investigated by using only unrealistic choices. All such choices were classified according to whether or not they are media oriented—whether they seem to be derived from occupations frequently portrayed in the pictorial media.³² It was expected that children with high exposure would have a larger percentage of their unrealistic occupational choices oriented in this way. The data, however, do not confirm the hypothesis.

In the over-all realistic context of this question, there is no relation between the child's projected self-image and his exposure to the pictorial media. The expectation that this self-image is colored by exposure is not realized in this context. But what happens when the context is changed to a clearly fanciful one?

Fantasy. As indicated earlier, the modal personality that boys want to be changed into is Superman, followed in order by animal breeder and FBI agent. Table 27 shows the percentage of boys' first choices falling into each of these categories for each exposure group.

³² Each child was given a score based on the percentage of his unrealistic choices—of those that were classifiable in this respect—that were media oriented. See Appendix C for the exact coding scheme.

TABLE 27
PERCENTAGE OF BOYS' FANTASY METAMORPHOSSES
IN TOP THREE CATEGORIES BY EXPOSURE

Category	Exposure	
	High	Low
Superman	21	9
Animal breeder	10	15
FBI agent	13	7

As can be seen from the table, boys with different amounts of exposure have very different metamorphic desires. As a matter of fact, the top three categories of boys with high exposure—Superman, FBI agent, detective—are completely different from those of the low exposure boys, which are animal breeder, president, and inventor. The girls' favorite personalities—movie star, princess, animal breeder—do not vary between exposure groups except in degree of choice: 54% of the girls with high exposure give movie star as their first choice as opposed to 39% of the girls with low exposure.³³

Of the seventeen personalities from which the children could choose, eight are considered media oriented: cowboy, movie star, detective, reporter, Superman, space cadet, FBI agent, and person from Mars. On the basis of the number of choices that fall into this group, each child was given a score on degree of media orientation of his fantasy metamorphoses.³⁴ It turns out that boys with high exposure have a higher media orientation score than do those who are less exposed ($t = 3.2, .0005 < P < .005$). Among girls, the difference is in the same direction but is not statistically significant.

³³ There is some reduction in this difference when the social characteristics are held constant but it does not disappear or reverse. Among boys, too, these differences persist when the social characteristics that relate to these choices are held constant, though in some subgroups to a lesser extent.

³⁴ A first choice that was media oriented received 3 points, a second 2, and a third 1. Hence, the media scores of children that gave three choices range from 0 to 6. Animal breeder was considered unascertainable in this respect; it was neither considered media oriented nor not so oriented. Only children who gave three ascertainable choices are included in the analysis.

How do the psychological characteristics combine with exposure in this respect? Among the boys, all three of the psychological variables are related to degree of media orientation of fantasy metamorphoses: boys with many problems give more media-oriented choices, as do those who are extrapunitive, and especially those with rebelliously independent tendencies. These factors combine with exposure in an additive manner producing highest media-orientation scores among boys with high exposure who are rebelliously independent, extrapunitive, and have many problems—in that order. No such relationships appear for the girls.

It seems, therefore, that the child's self-image is colored by exposure to the pictorial media but only in a context of fantasy. This effect is most marked among boys who are rebelliously independent. Further, the experimental data give some indication that rebelliously independent boys with low exposure are most affected by the comic book, hence lend some support to the conclusion that this cognitive correlate may be considered an effect. There seems to be no carry-over of this influence into the area of more realistic self-appraisal as seen in the children's occupational desires.

SUMMARY AND CONCLUSIONS

This study has investigated the exposure habits of a selected group of children and the influences of the mass media on their thought processes. From an analysis of the extent of exposure of children two distinct clusters of media emerged. Radio has taken on a new role, most likely because of the advent of television. It now forms a unit with books. The pictorial media—movies, comic books, and television—stand in a separate group. Children who listen to the radio and read books tend not to be highly exposed to the pictorial media and, conversely, those heavily exposed to the pictorial media do not spend much time listening to the radio or reading books. Girls are somewhat more often radio and book fans; boys concentrate more on the pictorial media.

The main part of the analysis centered on one of these clusters: the pictorial media.

Four factors seem related to the amount of exposure to the pictorial media. These are, in the order of their importance, parental restriction on amount of exposure, the child's IQ, occupation of the father, and religion. Children whose parents attempt to restrict their exposure time actually see less of the pictorial media; children with high IQ's spend less time in this form of entertainment, as do children whose fathers have white-collar occupations and who are Protestant. Hence, the factors associated with high exposure to the pictorial media are lack of parental restriction, low IQ, fathers with worker or service occupations, and being a Catholic. These factors are independently related to amount of exposure.

The next concern was the type of programs preferred by the children. A type of story that centers on a hero aggressively defending himself and others, as, for instance, in the Superman type of story, in war and spy stories, in westerns, crime stories, and space stories, was isolated for particular analysis. This type of material was referred to as the aggressive-hero type, or AH content. There is a large sex difference in preference for this type of material: girls show very little liking for AH content, boys show much more. Four factors are important in explaining a boy's liking for this material. Certain practices of the parents toward their children play a role: children whose parents restrict the amount of exposure time show less preference for this type of material; children who are spanked show a greater preference. Another determinant is rebellious independence. A boy who shows rebelliously independent tendencies will also show a greater preference for AH content. Finally, the child's IQ plays a role here too: the boy with high IQ is less likely to prefer this type of material. The factors associated with a particular liking of AH content, then, are lack of restriction on exposure time, spanking by parents, rebellious independence, and a low IQ. Further, boys with a great deal of exposure are more apt to like this type of material than are those with low exposure. This association is particularly strong among boys with many problems about themselves, their

friends, and their families; extrapunitive leanings; or rebelliously independent tendencies.

Among girls there is little variation in the over-all lack of preference for this type of material.

The next area of investigation centered on the reaction of boys to a specific comic book of the aggressive-hero type. High exposure boys, especially when they have many problems and extrapunitive tendencies, see such a comic book more as a type than as a unique story. They are attuned to the typical elements in it; because of the character of the genre, these typical elements stress aggression, threat, a technical view of crime with a lack of concern for a criminal's motivations, and a negative attitude toward law enforcement officers. These boys, with high exposure, especially when they have many problems, view the content of such stories as more realistic than do the others. In their way of looking at the people in these stories, their emphasis is on physical characteristics, stereotyped evaluations, and explanations centering on social factors.

The final set of results centered on the cognitive correlates of exposure—the thought processes that seem to be related to exposure to the pictorial media. Again the first observation was the difference between boys and girls. Whereas boys do seem to show some influences, girls show hardly any. Three cognitive correlates of high exposure were isolated among boys. First, boys with high exposure tend to classify people in a stereotyped way—into black-and-white categories. For them, the reasons for a person's falling into the black category, for instance, are magical; boys with high exposure show little concern for the problems of motivation. This tendency is especially apparent among boys with many problems and extrapunitive leanings. Further, there is some evidence that among boys with these psychological characteristics exposure increases the tendency to think in this way. Second, high exposure is related, among boys, to a passive attitude—an attitude of acceptance of the socioeconomic situation of the father and a lack of interest in changing it. This attitude is especially strongly associated

with exposure among boys with many problems. Finally, the fancied self-image of boys with high exposure is colored by the mass media. The people chosen by these boys as possible candidates for a metamorphosis—people they would like to be changed into—are taken from the content of the pictorial media. This media orientation is most evident among boys with rebelliously independent tendencies, and some evidence exists that it is an effect.

Among girls, no cognitive correlates were found. There is a tendency for girls with high exposure to feel more threat to the world; otherwise cognitive differences that exist among them are not associated with differences in exposure to the pictorial media.

The Function of the Mass Media

The problem of this study centers on the effect of the act of exposure on a child's cognitive processes. But, as suggested in the introduction, in order to understand even such a limited influence it is necessary to take into account a number of intervening influences. The elements that intervene between the mass media and their effects seem scattered and difficult to relate. There is, however, one conception that unites them: the concept of function. The function of the mass media in the life of the child reflects his psychological predispositions; it also influences his modes of perception. Hence, if one understands the function of the mass media in a child's life, one has progressed materially toward understanding the process of effects.

The main question of this section, then, is whether the results of this study provide empirical support for the existence of a particular function of the mass media in the life of the child. Many functions have been suggested in the discussions of mass media and their effects. Do the present data throw light on this theoretical discussion? We believe they do. Our results support the hypothesis that for certain children, under certain conditions, the mass media serve one function in particular—that of escape.

The Function of Escape

One may conceive of the mass media as providing a substitute world into which one may escape from the problems and tensions of life. Energy resulting from tension within the child is directed toward temporary solutions of problems, solutions having no bearing on the problems as such. Escape into such temporary solutions takes on great importance when, in becoming habitual, it tends to preclude more realistic and lasting solutions. Furthermore, the person for whom the mass media provide a habitual form of escape may so orient himself to the world of the media—a world most likely very different from his own—that he will incorporate the values and behavior patterns of this world. The degree of resulting harm will depend, of course, on the type of content chosen to fulfill this purpose, but the very fact that this media world is disassociated from the one in which the person who exposes himself lives increases the probability that behavior based on such incorporation will be inappropriate and hence problematic.

Opposed to the point of view that the function of the mass media is to supply a substitute world into which one can escape, is the view that the mass media serve functions that may be classified under the heading of *supplementation*. The term *supplementation* is used to highlight the bringing together of the mass media with a person's everyday life, in contrast to the separation of these spheres implied by the function of escape. According to these views, the mass media widen the horizons of the person exposed to them, supply him with information on how to behave in certain situations, or merely offer him needed relaxation. Whether or not there will be a positive influence of the mass media on the person using them in a supplementary way depends upon the congruence of the content chosen and the particular situations in which he finds himself. However, the notions of supplementation, based, as they are, on the relation of the media world to one's own, should minimize any negative effects that might exist.

The results of the present study indicate that high exposure serves the function of escape for some children and not for others. It is the presence of certain psychological characteristics in the child that seems to determine these differences. Specifically, it appears that a child with high exposure who has problems in his daily life, has extra-

punitive tendencies, is rebelliously independent will view the mass media from the substitute point of view—use them as an escape. For the high exposure child *without* these psychological characteristics, the mass media do not appear to serve this function.

Substantiation of the view that these psychological characteristics determine whether or not the mass media are used as an escape, rests on two types of arguments: First, a theoretical analysis of their meaning in relation to the logical requirements implied in the function of escape; second, corroboration of these interpretations by means of empirical results of this study.³⁵

Logical considerations. It will be recalled that three psychological characteristics have been used in this study: presence of problems, extrapunitive, and rebellious independence. The first is essentially a measure of the child's ability to relate to others in his immediate environment, a fact explicit in the peer and family areas. But even the self area fits into this picture. When a child says he wants to be smarter than he is, he certainly is not basing this judgment on an absolute scale of intelligence, but rather on a relative one—relative to the intelligence of the people around him and the situations that confront him. Being in the high problem group, then, is indicative of a child's inability to relate successfully with those around him.

The extrapunitive child is one who directs blame outward. A situation arises with potential ill effects; the blame is not his, it is that of an external agent. If such a child is faced with a difficulty, he most likely blames others for this situation. Hence, we might expect this child to search for solutions to any problems he may have in external sources, rather than within himself.

Rebellious independence, it will be re-

membered, is measured by the child's unwillingness to accept parents or siblings as companions in certain circumstances and his willingness to proceed alone. A boy with this characteristic is more adventure oriented—he will frequently want to go into the armed services or have an air or sea adventure occupation; he seems oriented to experiences distant from those to which he is accustomed.

These psychological characteristics are seen, then, to have a common element: their presence seems to indicate certain difficulties in a child's life and an accompanying orientation away from the immediate situation in which he finds himself. In the discussion of the meaning of the function of escape these elements were seen to be crucial. This function presupposes, first, a desire to escape. The above analysis has shown that this requirement is met. Further, however, the escape function implies the use of the mass media to fulfill this desire—to provide for these children an alternative point of orientation. In turning to this second requirement one shifts from logical considerations to empirical data for corroboration.

Empirical considerations. The preference for AH content provides a starting point. This content centers on an environment remote from that of the children studied. Such content—as opposed to the *I Love Lucy's* of the mass media—is congruent with the notion that the media fulfill a child's desire to escape. Hence, one can obtain support for the hypothesis by looking at the content preferences of high exposure boys with and without these psychological characteristics.

One of these characteristics—rebellious independence—is related to preference for AH content among all boys. Among high exposure boys, those who are rebelliously independent show particular preference for AH content. Similarly, the high exposure boy with many problems is much more likely to prefer AH content than is the one with few problems. The same holds true for high exposure boys who are extrapunitive. The presence of this psychological characteristic, too, increases preference for

³⁵ These corroborating data are not the results for which an interpretation is being sought in this section. They merely help to establish the general scheme by which these main results—the influence of the mass media on certain cognitive processes of the child—may better be understood. Because of the lack of cognitive correlates of high exposure among girls, the empirical results discussed in this section are mainly relevant to boys.

AH content. Boys with high exposure who have these psychological characteristics show preference, then, for a type of material in the mass media that could well serve the function of escape for them.

There is also another type of supporting evidence: that stemming from the reactions of boys to a particular example of this type of material—the comic book shown the boys in the experimental subsample. Highly exposed boys with these psychological characteristics are particularly likely to view the comic book story as typical, to remember mainly the typical details. The people in the stories, if reacted to on a level beyond mere appearance, are simply part of the black-and-white nature of the media world. Further, such a child views the content of the stories as more realistic.

These differences of reaction indicate that elements of the content these children prefer are organized by them into a fairly stable structure into which a new example is assimilated. Such a structure is a *sine qua non* if the content of the media is to be used as a substitute world of orientation, a notion implicit in the function of escape. It is the presence of such an organization of the material viewed that mainly differentiates between people using the media as escape and those using them, for instance, as relaxation. The latter may like the same type of material, but will not find it necessary to make a meaningful whole of it, since they do not depend on it as a point of orientation. Hence, there is evidence that the media serve an escape function for the boy with many problems, extrapunitive leanings, and rebelliously independent tendencies.

Cognitive Correlates and Escape

In the last section it was shown that a boy with high exposure, many problems, and extrapunitive leanings, shows a tendency toward stereotyping. This attitude is a direct reflection of the content of the mass media preferred by such a boy, elements of which content he has organized in his mind into a more or less stable structure. This child then is asked about his view of people in general, not people from the mass media.

On what can he draw for his attitudes? The problems in his own life have not led to speculation about himself, since these problems are not his fault; he can do nothing about them. Hence, his main source of judgment lies in the world he has built up, a world centering around the elements of mass-media stories. And his attitudes will be put in these terms: people in general will fall into black-and-white categories, fiat rather than reason will rule—a fiat stemming from the media world reflected in his imagination.

The second cognitive correlate of high exposure among boys is the impingement of the mass media on their fancied self-image. This tendency is particularly strong among children who are rebelliously independent, though extrapunitive tendencies and many problems also add to it. This child, as has been indicated, adds adventure orientation to the characteristics already described. The world of the media provides an anchorage for such a child's adventure-seeking solutions of his present difficulties. Hence, when asked whom he wants to be changed into—asked to put himself into an imaginary alternative role—he relies on this world to supply an answer.

Third, passivity is related to high exposure, particularly among boys with many problems. Here is a boy with difficulties, using the media as an escape from them. He channels his dissatisfaction into mass-media behavior, providing temporary solutions only. Once, however, his energy has gone in this direction he can stop his search for solutions. An alternative channel to which he might turn—that of change in his adult stage by planning now on realistic occupations different from those in the context of which his family functions—is therefore not utilized by him.

Thus, if a child has certain psychological characteristics he uses the media as an escape and they will have an effect on his thought processes. If he does not have the relevant psychological characteristics—if he does not have many problems, does not have extrapunitive tendencies, is not rebelliously independent—the mass media will not serve as an escape, and will not have

these effects. Whether the time of such a boy could be better spent in other activities is another question, which will not be treated here.

Underlying all these considerations of cognitive effects is the basic fact of exposure. The determinants of exposure, as has been indicated, are, on the whole, social. Occupation of father, religion, IQ, and parental restriction affect the amount of a child's exposure. The psychological characteristics of children do not differentiate between those with high and those with low exposure. For the process under discussion, exposure is a prerequisite. Taking this fact into account, the argument may be summarized in the following way.

The amount that a child is exposed to the pictorial media is determined mainly by the social environment in which he finds himself as well as by his general intelligence. Given, however, a pattern of high exposure, the child's psychological characteristics become very important. They determine the function of the mass media for him; they differentiate the type of content he prefers and how he perceives it; they determine the influences of this content on him. A boy with problems, extrapunitive leanings, and rebelliously independent tendencies who, mainly as a result of his social environment and his IQ, is highly exposed, relies on the media for temporary solutions to difficulties; structures the content of the media in black-and-white terms around elements of aggression, threat, amoral views of crime and negative attitudes to existing law enforcement institutions; and draws on this structure in his judgments of people and in a projection of his own self-image.

Proportion of population involved. One can see, therefore, the emergence of a syndrome out of the conjunction of high exposure to the pictorial media and certain psychological characteristics. The value put on this syndrome—whether it is considered harmful or not—is a matter for individual decision. To this question the results of this study provide no answer. One may, however, profitably point out the percentage of boys in a community such as has been studied here that is likely to be involved. In

this study only 3% of the boys are highly exposed, have many problems, are extrapunitive, and are rebelliously independent. It has been shown, however, that not all three psychological characteristics are necessary to produce the syndrome. When these elements are taken singly, the percentages rise: high exposure and many problems are combined in 12% of the boys studied; 11% are highly exposed and extrapunitive; 9% combine rebellious independence with high exposure.²⁶ Nevertheless, it seems clear that the group of boys with the relevant characteristics is not large.

Mass Media and Overt Behavior

One may now be in a position to diverge somewhat and speculate on the implication of these conclusions for the problem of the relation between the mass media and overt behavior. This study indicates that a child with certain psychological characteristics who is highly exposed, picks up certain elements of the mass media, forms these into a picture in his mind, and draws on this picture when asked to express attitudes and desires on related matters. One might speculate, therefore, that in a situation requiring some overt act, which is similar in certain crucial respects to some media-determined picture in his mind, he will also draw on this picture to guide his actions. One would, therefore, expect the mass media to have an effect on the overt behavior of a high exposure boy with certain psychological characteristics who finds himself in a situation to which the structure built up in his mind from the content of the media is applicable. Hence, one may say that the danger area with regard to overt behavior lies in the group of boys with a certain combination of social and psychological factors, a group seen, at least in the community of the present study, to be small. It is in this group that the media serve the function of escape and that the cognitive syndrome investi-

²⁶ In evaluating these figures it must be remembered that the cutting points of these distributions—with the exception of that of rebellious independence—were empirically determined with a view toward equalizing "highs" and "lows."

gated makes its appearance. Whether a translation into overt behavior occurs will depend on the situation the boy finds himself in and, possibly, on the amount of tolerance he has for unrealistic solutions. At any rate, one may safely conclude that any connection between the mass media and overt behavior will be indirect, mediated by all the factors discussed.

It is of interest to note, in this connection, that traits similar to the psychological characteristics of this study were found to play a role in the "causal complex" of delinquency (Glueck & Glueck, 1950). "A far higher proportion of the delinquents display emotional tension arising from a faulty father-son, mother-son, or sibling-boy relationship . . . or out of faulty relations with companions . . . also, there is a higher incidence among the delinquents of conflict-response to feelings of inferiority . . ." (p. 252)—many problems. "A larger proportion of the former [delinquents] give vent to conflict by extroversion of action . . . [which] 'implies that a boy refuses to take any responsibility for his behavior'" (p. 251)—extrapunitive ness. Delinquents "are considerably less cooperative with and dependent upon others" (p. 241); and are "inclined more to adventurous activities" (p. 167)—rebellious independence. The children that the Gluecks studied all came from underprivileged areas; hence, social characteristics were the same for delinquents and nondelinquents.

Effect of the Mass Media on Girls

The most important point to be made in regard to girls is that in the terms of this discussion the mass media have little effect on them. There are really no cognitive correlates of exposure to the media among girls. As a result, the interest shifts in the case of the girls to the problem of explaining the great uniformity of their behavior, their lack of deviation from a norm. Certain parental practices were found to be more uniform when applied to girls than when applied to boys. Also, girls seem to be more adjusted to the school situation—they get much higher conduct and effort grades; they try harder in school—they are much more likely to be over-achievers. In some way, then, they are more conforming and are rewarded for this conformity.

Now why is it that the mass media have less differentiating influence on the girls? First, two of the psychological characteristics important for such an influence—extrapunitive ness and rebellious independ-

ence—do not occur very frequently among the girls studied. But girls do have problems. Why does not this factor lead to influences? The answer probably lies in the phenomenon of uniformity itself. Most likely this uniformity reflects a need to conform within the girl herself, a need which is particularly important for girls with many problems. Such girls may seek the solutions of their difficulties by emphasizing an already existing tendency toward conformity. In such an effort help is not supplied by the mass media, except, perhaps, in the refusal to deviate from the normal habits relating to them. And, as has been indicated, any deviation that does exist in relation to the mass media, is particularly evident among girls with few problems—girls whose need to conform is somewhat less.

One gets a picture, then, of girls trying to fit into an established pattern. They expose themselves to the mass media when it is accepted. They will watch television and go to movies, but comic books they read much less—this type of exposure is not usually part of the family pattern. Rather, they emphasize books. They show very little preference for AH content. As opposed to the boys, they emphasize situational stories more than animal ones, a preference pattern most likely shared by their parents. The mass media do not seem to supply a solution to difficulties in a context of conformity to standards of the immediate environment—a context applicable to the girls studied.³⁷

The material presented in this study has served a double purpose: to investigate the exposure habits of children to the mass media and to reach some conclusion as to the effect of this experience on certain of the child's cognitive functions. Such an effect seems to exist when exposure is accompanied by certain psychological characteristics in the children themselves.

³⁷ The age under consideration may be very important in this respect. It is entirely possible that at an older age, with content centering around romance and love instead of on an aggressive hero, the media do serve as an escape for certain girls, and do have specific influences on them.

BIBLIOGRAPHY

ALBERT, R. S. The role of mass media and the effect of aggressive film content upon children's aggressive responses and identification choices. *Genet. Psychol. Monogr.*, 1957, 55, 221-285.

BAILYN, LOTTE. Mass media and children: A study of exposure habits and cognitive effects. Unpublished doctoral dissertation, Radcliffe Coll., 1956.

BUTTERWORTH, R. F., & THOMPSON, G. G. Factors related to age-grade trends and sex differences in children's preferences for comic books. *J. genet. Psychol.*, 1951, 78, 71-96.

CHARTERS, W. W. *Motion pictures and youth, a summary*. New York: Macmillan, 1933.

DALE, E. *Children's attendance at motion pictures*. New York: Macmillan, 1935.

GLUECK, S., & GLUECK, ELEANOR. *Unraveling juvenile delinquency*. New York: Commonwealth Fund, 1950.

HOLADAY, P. W., & STODDARD, G. D. *Getting ideas from the movies*. New York: Macmillan, 1933.

KLAPPER, J. *The effects of the mass media*. New York: Bureau of Applied Social Research, 1950. (Mimeoographed)

LAZARSFELD, P. F., & ROSENBERG, M. (Eds.). *The language of social research*. Glencoe, Ill.: Free Press, 1955.

LIND, KATHERINE N. The social psychology of children's reading. *Amer. J. Sociol.*, 1936, 41, 454-469.

MACCOBY, ELEANOR E. Why do children watch television? *Publ. Opin. Quart.*, 1954, 18, 239-244.

MACCOBY, ELEANOR E., LEVIN, H., & SELYA, B. The effects of emotional arousal on the retention of film content: A failure to replicate. *J. abnorm. soc. Psychol.*, 1956, 53, 373-374.

MAHONY, KATHERINE St. J. Elementary school pupils' TV habits and choices. *Cath. Educ. Rev.*, 1953, 51, 234-245.

MITCHELL, ALICE M. *Children and movies*. Chicago: Univer. of Chicago Press, 1929.

PETERSON, RUTH C., & THURSTONE, L. L. *Motion pictures and the social attitudes of children*. New York: Macmillan, 1933.

PORTIS, B. An empirical analysis of Catholics' choice between public and parochial primary schools. Unpublished honors thesis, Dept. of Social Relations, Harvard Univer., 1956.

RICCIUTI, E. A. Children and radio: A study of listeners and non-listeners to various types of radio programs in terms of selected ability, attitude, and behavior measures. *Genet. Psychol. Monogr.*, 1951, 44, 69-143.

RILEY, MATILDA W., & RILEY, J. W., JR. A sociological approach to communications research. *Publ. Opin. Quart.*, 1951, 15, 445-460.

ROGERS, C. R. Measuring personality adjustment in children nine to thirteen years of age. *Teach. Coll. Contr. Educ.*, 1931, No. 458.

ROSENZWEIG, S., FLEMING, EDITH E., & ROSENZWEIG, LOUISE. The children's form of the Rosenzweig picture-frustration study. *J. Psychol.*, 1948, 26, 141-191.

SHUTTLEWORTH, F. K., & MAY, M. A. *The social conduct and attitudes of movie fans*. New York: Macmillan, 1933.

STEINBECK, J. How to tell good guys from bad guys. *The Reporter*, 1955, 12 (5), 42-44.

STRANG, RUTH. Why children read the comics. *Elem. Sch. J.*, 1943, 43, 336-342.

WITTY, P. Children's interest in comics, radio, motion pictures, and TV. *Educ. Admin. Supervis.*, 1952, 38, 138-147.

WOLF, KATHERINE M., & FISKE, MARJORIE. The children talk about comics. In P. F. Lazarsfeld & F. N. Stanton (Eds.), *Communications research, 1948-49*. New York: Harper, 1949. Pp. 3-50.

(Accepted for publication February 5, 1958)

APPENDIX A

COMMUNITY AND SAMPLE

Community. The town of Arlington, Massachusetts, in which this study was made, has a population of slightly over 47,000. It is a suburban town located a few miles north of Boston. It contains nine public and two parochial elementary schools. Almost 30% of the fifth and sixth grade school population were enrolled in parochial schools at the time of this study.

Arlington as a whole seems fairly heavily Catholic. Judging from enrollment figures in the parochial and public schools and from the number of Catholics in the present sample, it seems as if almost two thirds of the fifth and sixth grade population are Catholic, of which slightly over half are enrolled in public schools. This portion is, therefore, a selected one. A study of Catholics' choice of parochial or public schools conducted in Arlington (Portis, 1956) shows that white-collar families are more likely to send children to parochial schools, as are families in which neither parent went to college. This study also shows that Catholics are more likely to send daughters than sons to parochial schools.

Sample. The sample used in this study consists of the fifth and sixth grade children in seven of the nine public schools of Arlington. One school had burned down in the spring of 1954, and a second close to it was on double session taking care of both schools, hence these two schools could not be used.

The questionnaire was administered during the week of March 14th, 1955, to every fifth and sixth grade class in the seven schools—a total of 629 children. The final sample consists of 626 of these children, 332 boys and 294 girls. Three cases were dropped: one boy filled in only a few pages of the questionnaire because he was at such a low level of reading that he could not handle more; two other children (one boy, one girl) left too many questions unanswered to be useful for the analysis.

Experimental subsample. The boys in the experimental subsample were selected from among the four extreme exposure-problem groups: high

exposure-high problems (H-H); high exposure-low problems (H-L); low exposure-high problems (L-H); low exposure-low problems (L-L).

Of the 179 boys in these extreme groups, 100 were selected, 25 for each of four experimental groups: H-H, H-L, L-H, L-L. The selection procedure was as follows: First, all boys whose frequency of reading comic books was "1 every few weeks" or less were eliminated from the high exposure groups; similarly, those who said they read "2 or 3 a day" or more were eliminated from the low exposure groups, in order to insure definite differences between high and low exposure groups on frequency of exposure to the medium used in the experimental part of the study. Second, the boys whose reading grades in the year 1954-55 contained a D or F, or who were on a reading level of a lower grade than the one they were in, were eliminated, since one of the tasks in the interview was to read a comic book. Third, all boys who failed to answer one or more questions in Part II of the questionnaire were left out, since these questions were to be repeated after the comic book reading. This procedure left 144 boys (H-H: 29, H-L: 38, L-H: 36, L-L: 41) from whom the final selection was made. The final groups were chosen in such a way as to match as closely as possible the distributions on the following characteristics: religion, father's occupation, education of parents, IQ, and school achievement as measured by average grade for the year 1954-55. Of the 100 boys specified in this way, two could not be interviewed: one because he had moved and had entered one of the two schools to which we did not have access; the other because his parents had been disturbed by the questionnaire and the school authorities requested the removal of his name from the list. Two other boys were substituted with social characteristics as close to the original two as possible, and from the same exposure-problem groups. Each selected boy was interviewed individually during the month of May, 1955, six to ten weeks after he had filled out the questionnaire.

APPENDIX B

QUESTIONNAIRE AND MARGINALS BY SEX

The questionnaire consists of four parts: face sheets—social characteristics; Part I—psychological and some cognitive characteristics; Part II—cognitive characteristics; Part III—exposure habits. This appendix presents Parts I and II of the questionnaire. The other parts may be found in the dissertation copy (Bailyn, 1956, App. A).

The figures next to the response categories represent the percentage of children choosing that category. The figure on the left represents the percentage of boys giving that response; the one on the right, the percentage of girls. Percentages do not always add up to 100% because some children

did not answer certain questions or circled more than one response.

In questions asking for more than one choice, a number of pairs of figures are given: the pair at the left represents the percentage of children choosing that category as their first choice (boys to the left of girls), the second pair represents the second choice, the third pair the third choice, etc.

Classification of answers to open-ended questions are given immediately following the questions. Response categories to these questions are neither numbered nor identified by letters. Again, the percentage of boys' answers in each classification appears to the left of that of girls' answers.

PART I

1. Which of these two things would you usually rather do? Circle the number of the one you would rather do:

66,87	1. Go on an outing or picnic for the afternoon with your friends.
33,13	2. See a movie with your friends.

2. Suppose that, just by wishing, you could be any age at all. Put a circle around the number in front of the age you would most like to be:

6,1	1. Under 5
3,4	2. 5 to 9
29,28	3. Over 9 but under 13
36,46	4. 13 to 19
25,21	5. 20 or over

3. In this question put a "1" in front of your first choice, a "2" in front of your second choice, and a "3" in front of your third choice.

If you were going to the circus would you want to go—

52,25	23,43	10,15	A—with your father?
12,15	16,10	21,19	B—with your best friend?
4,6	9,3	30,37	C—with your brothers or sisters?
9,10	9,9	14,12	D—with a group of friends?
18,41	39,33	15,11	E—with your mother?
4,1	4,1	7,3	F—by yourself?

4. Which of these two things would you usually rather do? Circle the number of the one you would rather do:

42,44	1. Be asked to join a club.
55,54	2. Start a new club.

5. Circle the number of the answer that fits you best:

5,10	1. I am too tall.
18,10	2. I am too short.
76,80	3. I am just about right.

6. Which of these two things would you usually rather do? Circle the number of the one you would rather do:

48,68	1. Read a book.
51,32	2. Read a comic book.

7. What would you most like to be when you are grown up? Put down the 3 types of work you would most like to do:

2,3	2,2	1,2	occupations involving animals
-----	-----	-----	-------------------------------

8,1	8,2	10,1	"cops and robbers"
7,4	7,5	7,3	air, sea, and other adventure occupations
7,2	6,3	6,1	armed services
3,1	4,1	5,0	outdoor occupations
11,0	11,0	8,1	athletics
1,10	1,10	2,10	entertainment
1,2	1,2	1,3	arts
11,0	8,0	5,0	builder-engineer
6,1	6,0	7,2	scientist
16,3	8,1	8,5	top professional
4,0	4,0	5,1	business and managerial
1,2	1,0	1,0	religious occupations
0,18	1,10	2,15	teacher
3,24	2,18	2,12	lesser professional
1,0	2,0	3,0	salesman
2,2	3,3	2,3	service
1,17	1,20	1,16	clerical and sales
11,0	16,0	11,0	worker, all skills
0,9	0,11	0,14	housewife
2,1	3,3	5,3	other

8. Circle the number of the answer that fits you best:

11,19 1. I am too fat.
 12,10 2. I am too thin.
 77,70 3. I am just about right.

9. How many friends do you have? Put a circle around the number of the answer that fits you best:

6,2 1. I don't have very many friends and like it that way.
 8,9 2. I don't have very many friends and wish I had more.
 9,8 3. I have a few good friends and don't want any more or less.
 11,16 4. I have a few good friends and would like to have more.
 41,38 5. I have many friends and enjoy it.
 3,4 6. I have many friends but would rather have just a few good ones.
 19,23 7. I have many friends and would like to have even more.

10. Suppose you got a bad mark on your report card. How would you feel? Circle the number in front of the answer that fits you best:

95,98 1. I would feel it was my fault because I didn't work hard enough.
 3,1 2. I would feel that mostly it was not my fault.

11. How often do you go to the homes of other kids in your class? Put a circle around the number of the answer that fits you best:

36,27 1. Very often (almost every day).
 34,42 2. Sometimes (once a week or so).
 30,30 3. Hardly ever.

12. A boy sits down at the table to eat his soup. His mother says, "It's too bad that the soup is cold." What do you think the boy answers? Circle the number of the answer you think the boy gives to his mother.

The boy says:

12,9 1. "Can't you heat it some?"
 39,31 2. "That's all right."
 48,60 3. "I should have started eating sooner."

13. Do you ever get spanked nowadays? Put a circle around the number of the answer that fits you best:

4,1 1. Yes, quite often.
 33,23 2. Sometimes.
 62,76 3. No, hardly ever.

How old were you the last time you were spanked?

4,7 4 years or less
 5,5 5
 6,7 6

6,10	7
7,14	8
15,16	9
24,20	10
20,11	11 years or over

14. Suppose you and your friend were talking to each other and then you find out that your friend is unhappy about something that was said. Would you feel this was your fault? Circle the number in front of the answer that fits you best:

23,15 1. I would feel it was definitely my fault.
 64,78 2. I would feel it might be my fault.
 7,6 3. I would feel it probably was not my fault.
 5,1 4. I would feel it definitely was not my fault.

15. How much difference does it make to your parents what marks you get in school? Circle the number in front of the answer you think is right:

93,80 1. It is very important to them for me to get good marks.
 7,19 2. They are pretty much satisfied with any marks I get.

16. How often do other kids in your class come to your house? Put a circle around the number of the answer that fits you best:

31,21 1. Very often (almost every day).
 37,46 2. Sometimes (once a week or so).
 31,33 3. Hardly ever.

17. Do your parents ever keep you from doing the things you want to do? Put a circle around the number of the answer that fits you best:

11,5 1. Yes, quite often.
 74,76 2. Sometimes they do.
 15,19 3. They hardly ever do.

18. Which of these two things would you usually rather do? Circle the number of the one you would rather do:

30,17 1. Go to someone else's party.
 68,83 2. Give a party.

19. Circle the number in front of the person who punishes you when you do something wrong:

39,63 1. Usually my mother.
 55,35 2. Usually my father.

Does anyone else punish you? If yes, write here who it is:

9,11 Other parent
 19,13 Other
 71,75 No one else

20. A boy is playing marbles with his friend. The friend says, "I'm sorry I pushed your marble by mistake." What do you think the boy answers? Circle the number of the answer you think the boy gives to his friend.

The boy says:

45,53 1. "I should have moved it out of your way."
 43,40 2. "Let's keep playing."
 11,6 3. "Can't you be more careful?"

21. Do you think your parents try to find out how you feel about something if you and they disagree? Circle the number in front of the answer you think is right:

43,46 1. Yes, almost always.
 41,42 2. Sometimes they do.
 16,11 3. Usually they don't.

22. Which of these two things would you usually rather do? Circle the number of the one you would rather do:

49,53 1. Play a game indoors.
 49,46 2. Watch television.

23. Suppose you could just have 3 of the wishes below, which would you want to come true? Read them all, then put a "1" in front of your biggest wish, a "2" in front of your second biggest wish, and a "3" in front of your third wish.

I would like:

4,9	7,8	5,10	A—To have more friends.
17,4	15,3	11,2	B—To be stronger than I am now.
20,32	13,16	10,14	C—To see the world.
5,5	3,3	3,1	D—To get along better with my father and mother.
4,10	3,8	4,6	E—To be thinner than I am now.
6,3	9,4	10,5	F—To go to a ball game.
3,7	7,14	7,12	G—To be better looking than I am now.
1,0	1,2	2,0	H—To have my father and mother be more like other people's parents.
0,1	5,4	6,2	I—To be taller or shorter than I am now.
2,4	4,7	4,12	J—To play a musical instrument.
1,2	1,4	4,6	K—To get along better with other kids.
16,2	18,6	15,5	L—To have a private plane.
1,1	1,3	2,1	M—To have my father and mother pay as much attention to me as they do to my brothers and sisters.
20,19	13,17	17,21	N—To be smarter than I am now.

24. Which of these two things would you usually rather do? Circle the number of the one you would rather do:

20,14 1. Decide yourself which games to play.
66,80 2. Let others decide which games to play.

25. Suppose you are talking to a friend and something the friend says makes you unhappy. Would you feel that this was your friend's fault? Circle the number in front of the answer that fits you best:

14,4 1. I would feel it was definitely my friend's fault.
46,52 2. I would feel it might be my friend's fault.
29,35 3. I would feel it probably was not my friend's fault.
11,8 4. I would feel it definitely was not my friend's fault.

26. Suppose that just by making a wish you could change yourself into any of the people below. Read them all, then put a "1" in front of the person you would most want to be changed into, a "2" in front of your second choice, and a "3" in front of your third choice.

I would like to be changed into a:

3,0	2,0	4,0	A—king
6,5	6,4	5,2	B—cowboy
10,45	8,12	8,15	C—movie star
9,1	5,3	6,1	D—president
0,1	2,1	0,1	E—prince
10,1	12,7	9,4	F—detective
4,5	6,13	6,15	G—reporter
7,1	9,2	8,5	H—inventor
14,1	6,3	6,4	I—Superman
2,0	2,1	4,2	J—space cadet
0,5	0,15	0,14	K—queen
12,13	6,6	5,6	L—animal breeder
8,2	12,6	13,4	M—explorer
0,15	0,21	0,17	N—princess
11,2	18,3	17,5	O—FBI agent
3,0	5,0	4,0	P—knight
1,0	0,1	2,1	Q—person from Mars

PART II

1. Do you think it is important to know if a person is good or bad before having anything to do with him?

86,86 1. I think it is very important.
14,14 2. I don't think it is very important.

2. Why do some people become bums?

52,44	1. Because they are naturally lazy.
47,55	2. For some other reason.

3. Do you think this country is in danger?

18,11	1. I think it is in great danger.
41,41	2. I think it is in a little danger.
23,31	3. I don't think it is in great danger.
17,16	4. I don't think it is in any danger.

4. It is possible to tell by a person's face whether he is honest or dishonest.

36,38	1. I think this is true.
62,61	2. I think this is false.

5. How often does something stop a person from doing the things he wants to do?

5,4	1. Almost always.
38,35	2. Quite often.
45,51	3. Not usually.
10,9	4. Hardly ever.

6. Circle the number of the person you think gets along better in this world:

94,95	1. A weak but nice person.
5,5	2. A strong but not quite so nice a person.

7. Why do people who commit crimes do so?

22,20	1. Because they are naturally bad.
77,79	2. For some other reason.

8. Do you think there is danger that people on this earth will be harmed by beings from another planet?

4,1	1. Yes, quite likely there is.
45,39	2. It is always a possibility.
32,48	3. Most likely not.
18,12	4. No, definitely not.

9. Lazy people are all alike and quite different from people who work hard.

74,70	1. I think this is true.
25,30	2. I think this is false.

10. Can most people be trusted?

21,21	1. Almost all people can.
55,54	2. Quite a lot of people can.
22,24	3. Only some people can.
1,1	4. Hardly any people can.

11. Do criminals ever become good?

78,82	1. Sometimes they do.
20,17	2. No, they usually don't.

12. Some people always get pushed around. Why is this?

26,14	1. Because they are naturally weak.
74,86	2. For some other reason.

13. Do people live here who are really enemies of this country?

18,7	1. Yes, many do.
44,35	2. Yes, some do.
21,34	3. No, not many do.
17,23	4. No, hardly any do.

14. People are either all good or all bad.

24,25	1. I think this is true.
75,74	2. I think this is false.

15. Is it hard for a person to be what he wants to be in life?

20,10	1. It is very hard.
40,44	2. It is quite hard.
32,40	3. It isn't very hard.
8,5	4. It isn't hard at all.

16. Are good people usually strong?

6,5	1. Yes, usually.
93,95	2. Not necessarily.

17. Why do some people tell lies?

14,13	1. Because they are naturally dishonest.
85,86	2. For some other reason.

18. Do you think something may destroy the world some day?

25,12	1. Yes, I definitely think so.
43,51	2. I think it might happen.
22,32	3. Most likely not.
10,5	4. No, I definitely don't think so.

19. There are only two types of people in the world, the weak and the strong.

19,19	1. I think this is true.
81,81	2. I think this is false.

20. Can a person usually find help if he needs it?

39,40	1. He almost always can.
53,55	2. Quite often he can.
6,4	3. He seldom can.
0,0	4. He hardly ever can.

APPENDIX C

SCORES AND CODING PROCEDURE

Scores

In the derivation of these scores, when a relevant question was left blank by any child a score was assigned to him on this question on the basis of his responses to the other items involved, as well as on the general distribution of answers to the question.

Exposure score. The exposure score was developed on the basis of the means and standard deviations of the frequency distributions for television, movies, and comic books of a sample of 106 boys. These data are presented in Table 28.

The frequencies given in the questionnaire were first changed into deviation scores. To make them more manageable, these scores were then subjected to the transformation $5x + 15.5$. The resulting values are given in Table 29.

The exposure score consists of the sum of the appropriate values for television, movies, and comic books.

Problem score. (Part I, Questions 2, 3, 5, 8, 9, 11, 15, 16, 17, 21, 23. Questions 2, 3, 9, and 23 are modified versions of items given by Rogers [1931, pp. 10, 16-18].) Three areas of problems were used to arrive at this score: self, peer, family. The scoring procedure is presented for each area separately.

TABLE 28
MEANS AND STANDARD DEVIATIONS OF FREQUENCY DISTRIBUTIONS TO PICTORIAL MEDIA OF SAMPLE FROM WHICH SCORE WAS DERIVED

	Tele- vision	Movies	Comic Books
Mean	2.28	4.15	3.51
Complement of mean to Base 7	4.72	2.85	3.49
Standard deviation	1.20	1.25	1.65

TABLE 29
VALUES USED IN EXPOSURE SCORE

Response No.	Television	Movies	Comic Books
1	21	28	23
2	17	24	20
3	13	20	17
4	8	16	14
5	4	12	11
6	0	8	8

SELF AREA (Nos. 2, 5, 8, 23)

Response	Score
<i>Item No. 2</i>	
1	4
2	3
3	0*
4	1**
5	2

* Unless age outside this range, then count as 1.

** Unless age in this range, then count as 0.

Item No. 5

1	Boys—3; Girls—5
2	Boys—5; Girls—3

Item No. 8

1	5
2	3

Item No. 23

	1st Choice	2nd Choice	3rd Choice
B	5	3	1
E	5	3	1
G	5	3	1
I	5	3	1
N	5	3	1

PEER AREA (Nos. 3, 9, 11, 16, 23)

Response	Score
<i>Item No. 3</i>	

Chooses F but not B or D	3
-----------------------------	---

Item No. 9

1	3
2	5
4	3
6	1
7	1

Item No. 11

3	5
---	---

Item No. 16

3	5
---	---

Item Nos. 11 and 16 Combined

3 and 1 respectively	2
3 and 2 respectively	1

Item No. 23			Item No. 14	
	1st Choice	2nd Choice	3rd Choice	
A	5	3	1	2
K	5	3	1	3
				4
FAMILY AREA (Nos. 3, 11, 15, 16, 17, 21, 23)			Item No. 20	
Response	Score		Item No. 25	
	Item No. 3		1	4
Chooses E but not A (if father at home)	Boys—3; Girls—0		2	3
Chooses A but not E (if mother at home)	Boys—0; Girls—3		3	2
Chooses A, E, F (if child has older siblings)	3		4	1
Chooses B, D, F	2			
Item Nos. 11 and 16 Combined			Coding Procedure	
1 and 3 respectively	2		The reliability of coding was determined by a different person from the one who coded 51 questionnaires. The questionnaires were chosen so that each class in the study had at least two representative boy and one girl. Within a class, the children were picked at random. The percentage agreements between the original coding and recoding of these questionnaires gives the percentage of coding error; 100% minus this percentage indicates the reliability.	
2 and 3 respectively	1		Occupation of father. The coding of father's occupation was based on an index code developed at the Laboratory of Statistics, Harvard University, for a study of aspirations of high school boys, under the direction of Florence Kluckhohn, Talcott Parsons, and Samuel Stouffer. The categories are:	
	Item No. 15		1. Top professional; major professional.	
1	3		2. Lesser professional; average professional; major sales and clerical.	
	Item No. 17		3. Minor proprietary or managerial and clerical.	
1	5		An occupation that was clearly of high character but where insufficient information was available to place it in one of the above categories.	
	Item No. 21			
2	2			
3	5			
	Item No. 23			
	1st Choice	2nd Choice	3rd Choice	
D	5	3	1	
H	5	3	1	
M	5	3	1	

The score for each area consists of the sum of the scores for all the relevant questions. The sum of these three separate scores comprises the total problem score.

Direction of punitiveness. (Part I, Questions 10, 12, 14, 20, 25. Questions 12 and 20 are based on Rosenzweig's picture-frustration test for children [Rosenzweig, Fleming, & Rosenzweig, 1948, pp. 167-170].)

Response	Score	
		<i>Item No. 10</i>
2	4	
		<i>Item No. 12</i>
1	4	
2	2	

bus drivers were classified into the skilled category; such occupations as barbers, milk men, waiters were classified with the semi-skilled workers. Occupations clearly of a worker or service character that were not classifiable into one of these three categories were coded as
 8. Worker—unascertainable.

Occupations that were so insufficiently described that they could be either white collar (Categories

Coding Procedure

The reliability of coding was determined by having a different person from the one who did the coding recode 51 questionnaires. These questionnaires were chosen so that each class participating in the study had at least two representatives—one boy and one girl. Within a class, the questionnaires were picked at random. The percentage of disagreements between the original coding and the recoding of these questionnaires gives the percentage of coding error; 100% minus this percentage indicates the reliability.

Occupation of father. The coding procedure for father's occupation was based on an occupational code developed at the Laboratory of Social Relations, Harvard University, for a study on the aspirations of high school boys, under the joint direction of Florence Kluckhohn, Talcott Parsons, and Samuel Stouffer. The categories follow:

1. Top professional; major proprietary or managerial.
2. Lesser professional; average proprietary or managerial; major sales and clerical.
3. Minor proprietary or managerial; minor sales and clerical.

An occupation that was clearly of a white-collar character but where insufficient information was given to code into any of these three categories was classified as

4. White collar—unascertainable.

Working occupations were classified, by means of the *Dictionary of Occupational Titles*, into the following categories:

- 5. Skilled
- 6. Semi-skilled
- 7. Unskilled

Service positions such as policeman, hairdresser, bus driver were classified into the skilled category; such occupations as barbers, milk men, waiters were classified with the semi-skilled workers. Occupations clearly of a worker or service character that were not classifiable into one of these three categories were coded as

8. Worker—unascertainable

Occupations that were so insufficiently described that they could be either white collar (Categories

1-4) or worker (Categories 5-8) were coded
9. Unascertainable.

Reliability of coding: When any deviation in these nine occupational categories is counted, the coding error was 24%, the reliability 76%. When only three classifications are used—white collar, worker, unascertainable—the reliability of coding was 92%.

Occupational choice, realism. Occupational choices were classified as realistic or unrealistic on the basis of the socioeconomic status of the family and the capabilities of the child. The coding was done on the basis of an estimate of the probability of a child in a given situation and with certain capabilities actually attaining the desired occupational status. Many individual decisions had to be made; the following general rules guided the coding.

Realistic:

Top professional—if father in top two white-collar categories and IQ of child ≥ 106 (in top two thirds of the IQ distribution) and grades ≤ 2.35 (in top two thirds of distribution); if father not in top two white-collar categories and IQ ≥ 122 (top third) and grades ≤ 1.45 (top third).

Lesser professional—if IQ ≥ 106 .

Business—unless clearly out of range of family status.

Worker—unless father in top two white-collar categories.

Service—unless father in top two white-collar categories.

Religious choices—unless child does not go to Sunday School.

Unrealistic:

Air and sea occupations, animal, art, athletics, entertainment, outdoor occupations—unless parents engaged in these activities.

Policeman and fireman—if father in top two white-collar categories.

Some choices were unascertainable in this respect and were not classified into either of these categories.

A first occupational choice that was realistic was given a score of 3, a second 2, and a third 1. Hence, the realism scores range from 0 (all unrealistic) to 6 (all realistic) for children who gave three choices that were ascertainable in this respect.

Reliability of coding: When any difference in realism score is counted as an error, there was a 16% error of coding, 84% reliability. When only the first choice and the categories of realistic, unrealistic, or unascertainable are used, the coding reliability was 90%.

Occupational choice, active nature of realistic choices. All realistic choices were classified as active or not on the basis of a comparison with the father's occupation for boys and with the mother's for girls. We present the types of combinations that were considered active occupational choices.

On the basis of these rules the individual decisions were made.

Active occupational choices for boys:

Father

nonprofessional
non-top professional
managerial
top professional
second white-collar category
lowest white-collar category
worker
unskilled or semi-skilled

Son

professional of any kind
top professional
proprietary
top business
first white-collar category
top two white-collar categories
white collar
skilled worker or service occupations

Active occupational choices for girls:

All the above rules apply when "mother" is substituted for "father," also the following:

Mother

untrained service
housewife

Daughter

trained service
anything but housewife

Some realistic choices were unascertainable in this respect.

Each child was given a score on activeness on the basis of the percentage of his ascertainable realistic choices that were active. Children with no realistic choices that were ascertainable in this respect were given no score on activeness.

Reliability of coding: When all differences in percentages are counted as errors, the coding error was 18%, reliability 82%. Use of the categories of all, some, or no active choices gives a reliability of 94%.

Occupational choice, media orientation of unrealistic choices. Unrealistic choices were classified as media oriented or not so oriented, on the basis of the estimated frequency with which acquaintance with such occupations stems from material in the mass media as opposed to other sources. The following rules indicate the type of decisions made.

Media Oriented

movie star
artist on a medium
cowboy or cowgirl
detective, FBI agent
space cadet or ranger

Non-media Oriented

professional
musician, author
most outdoor occupations

Animal and athletic choices were considered unascertainable for this purpose.

Each child was given a media-orientation score on the basis of the percentage of his ascertainable unrealistic choices that were media oriented. Children with no unrealistic choices that were ascertainable in this respect were given no score on media orientation.

Reliability of coding: When all differences in percentages are counted as errors, the coding error was 16%, reliability 84%. Use of the categories all, some, or no media-oriented choices gives a reliability of 92%.





